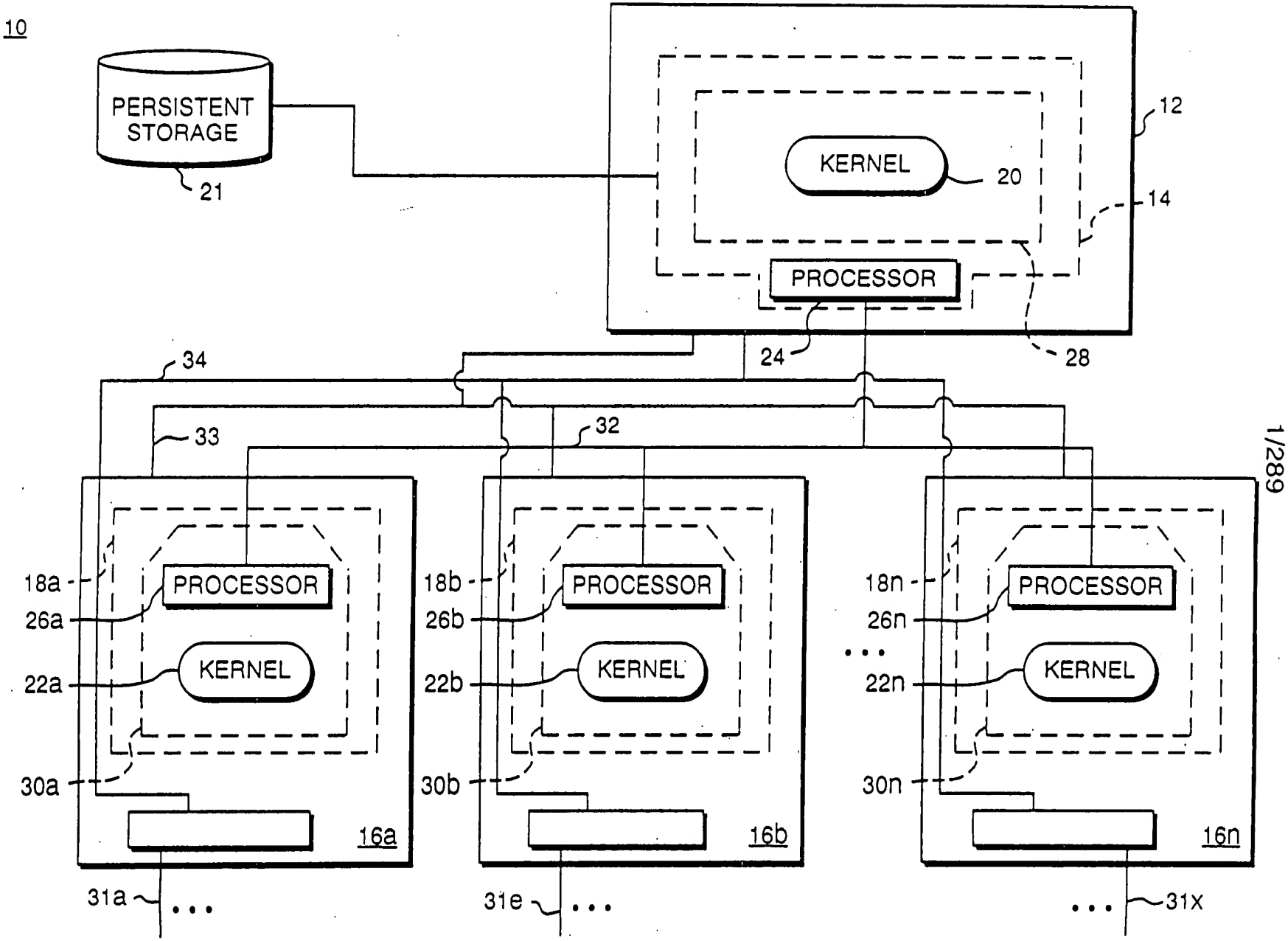


FIG. 1

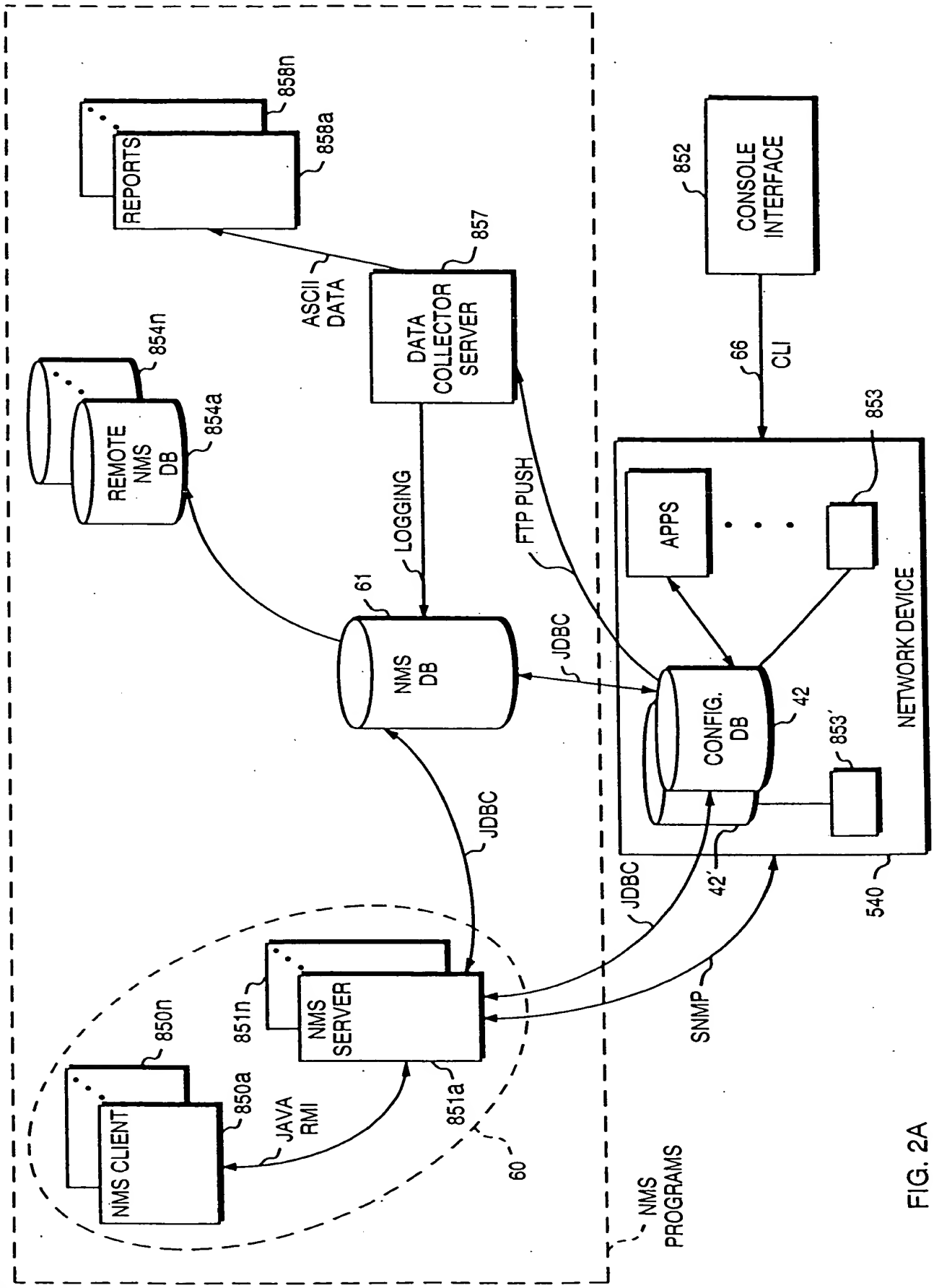


FIG. 2A

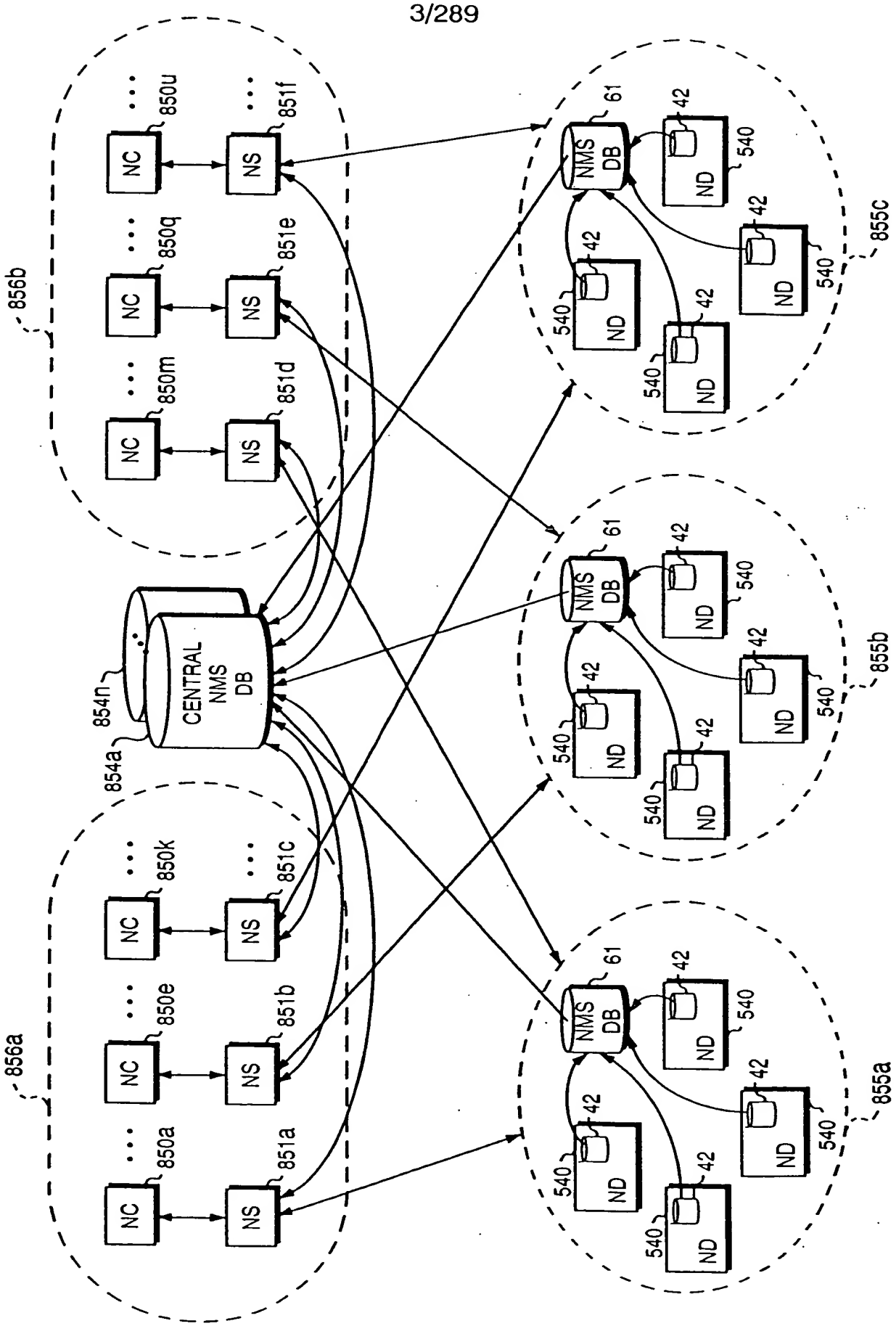


FIG. 2B

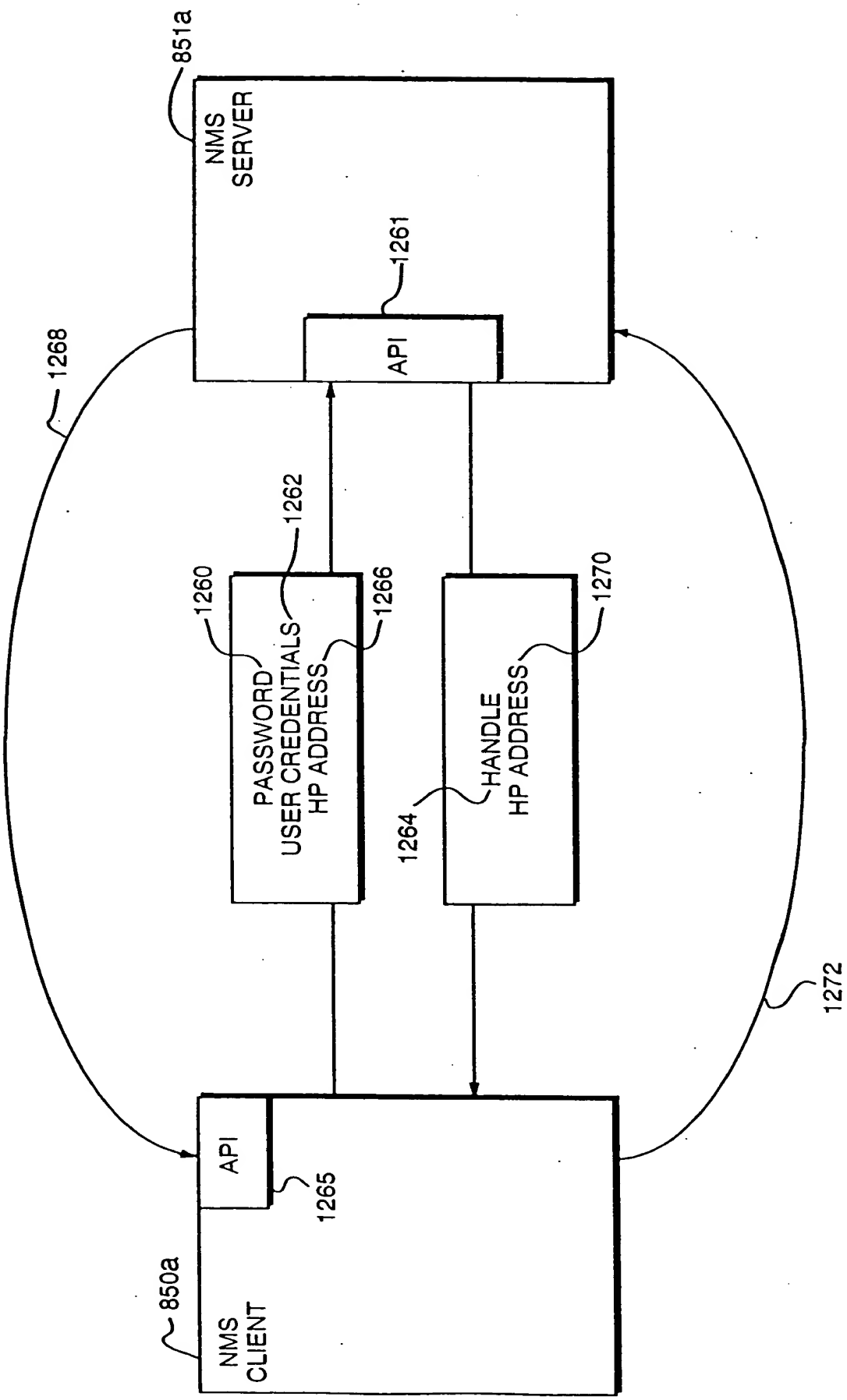


FIG. 2C

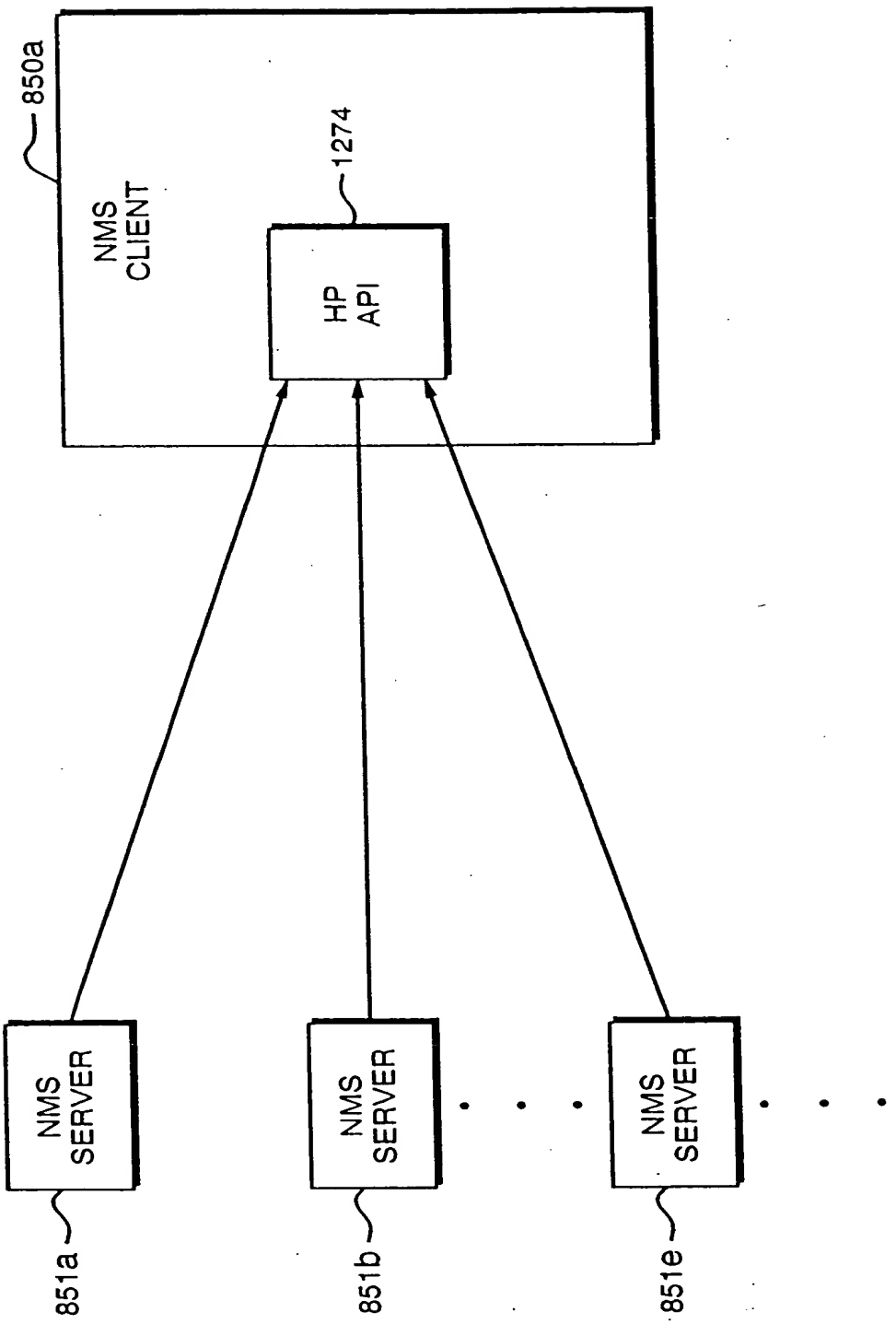


FIG. 2D

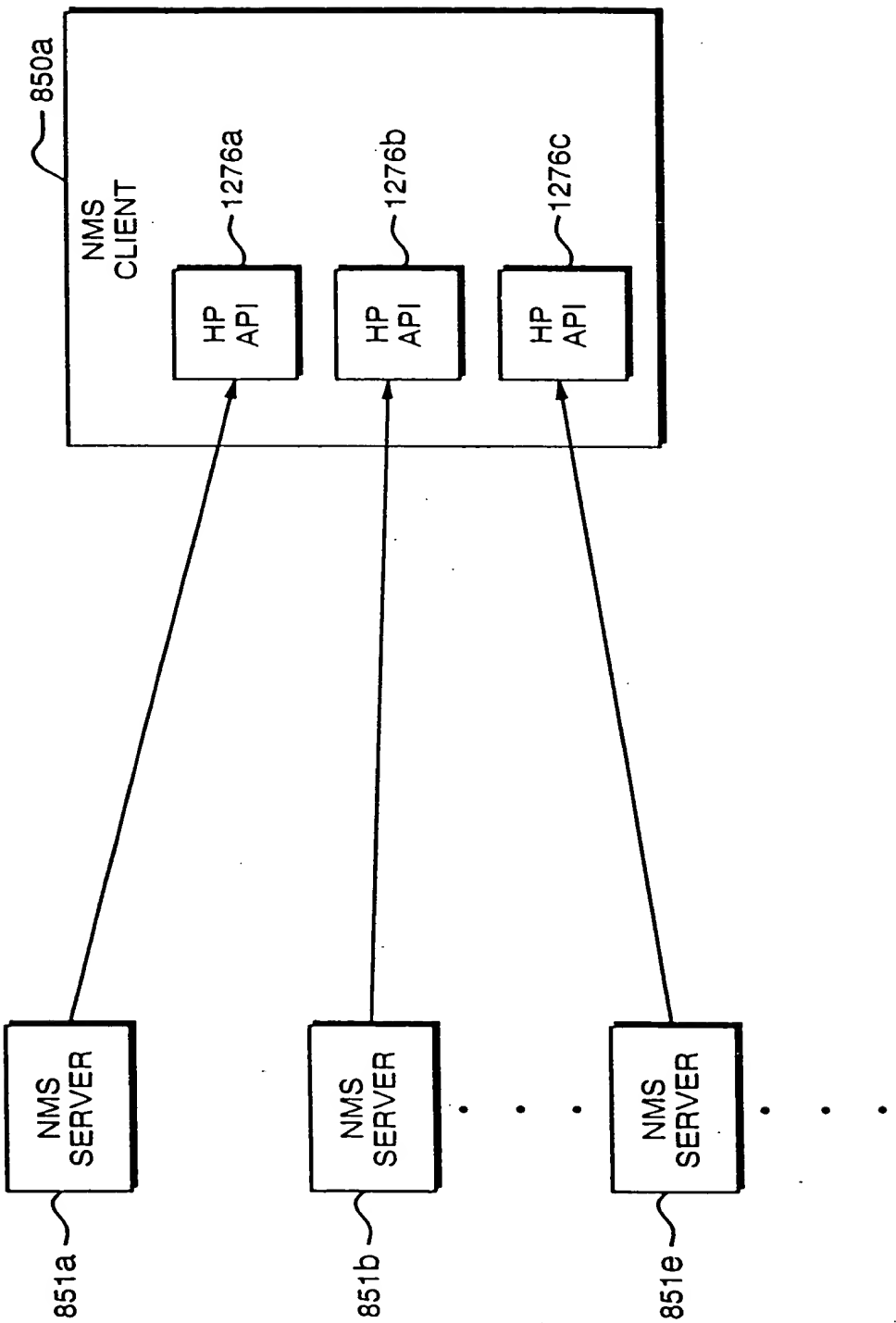


FIG. 2E

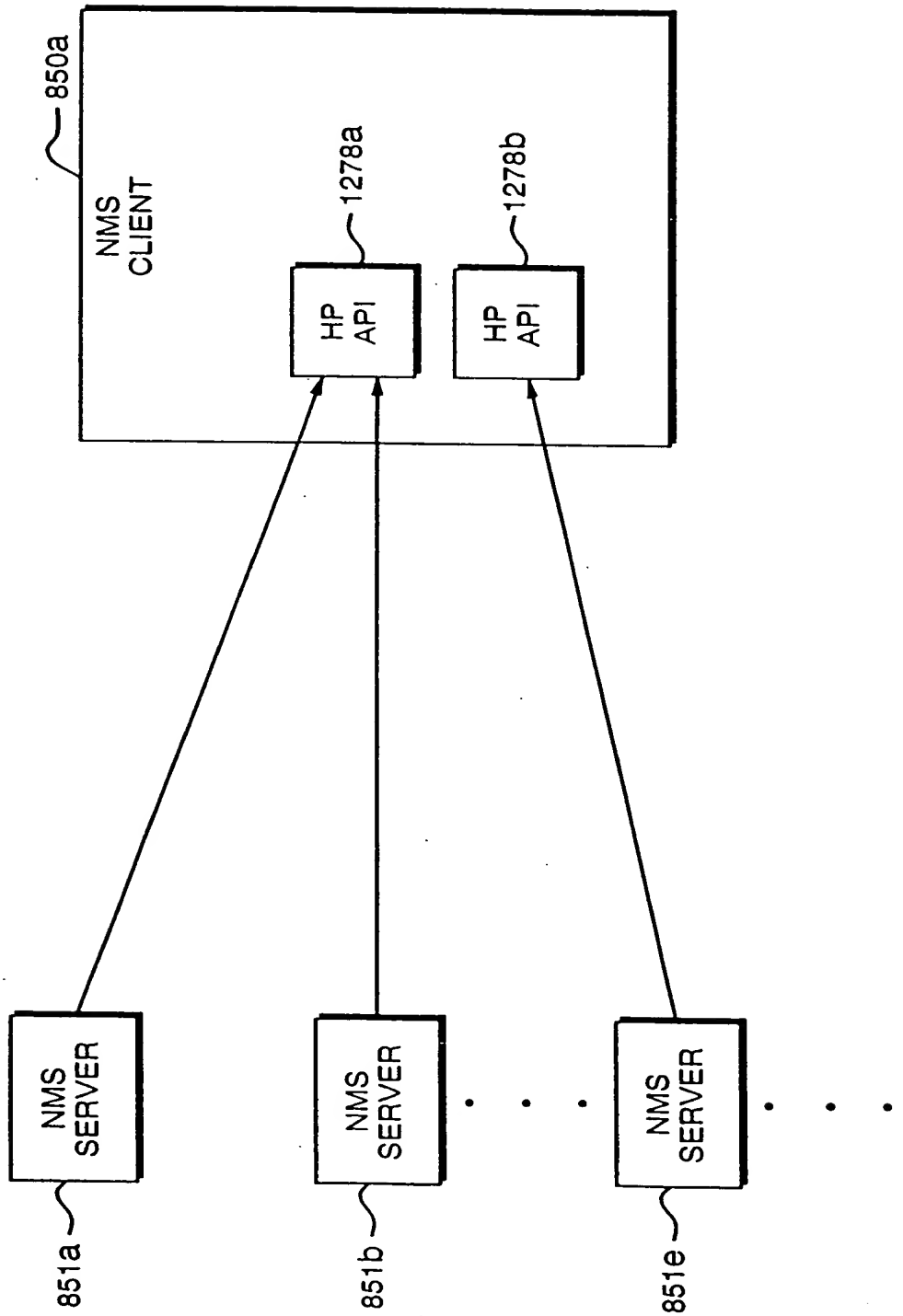


FIG. 2F

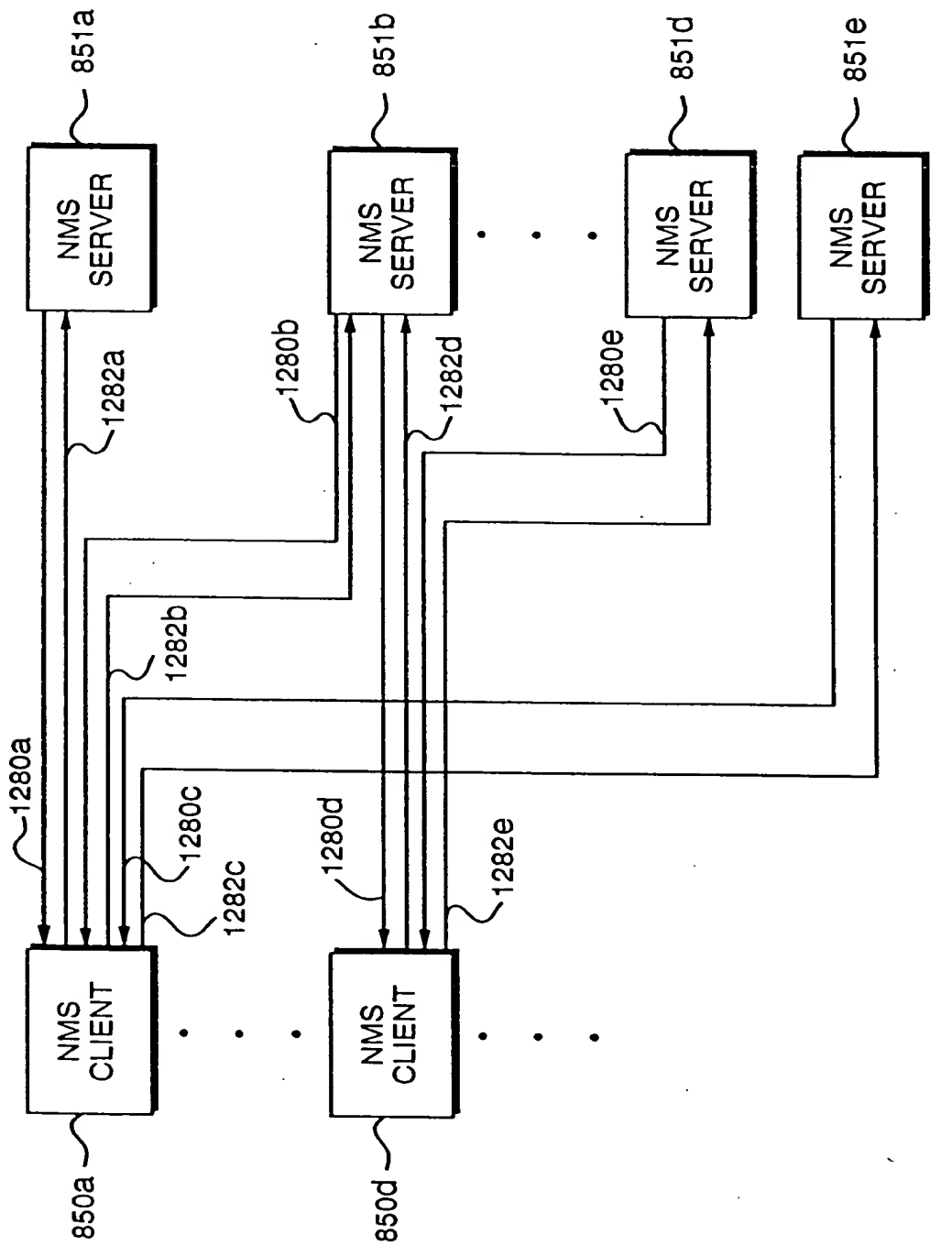


FIG. 2G

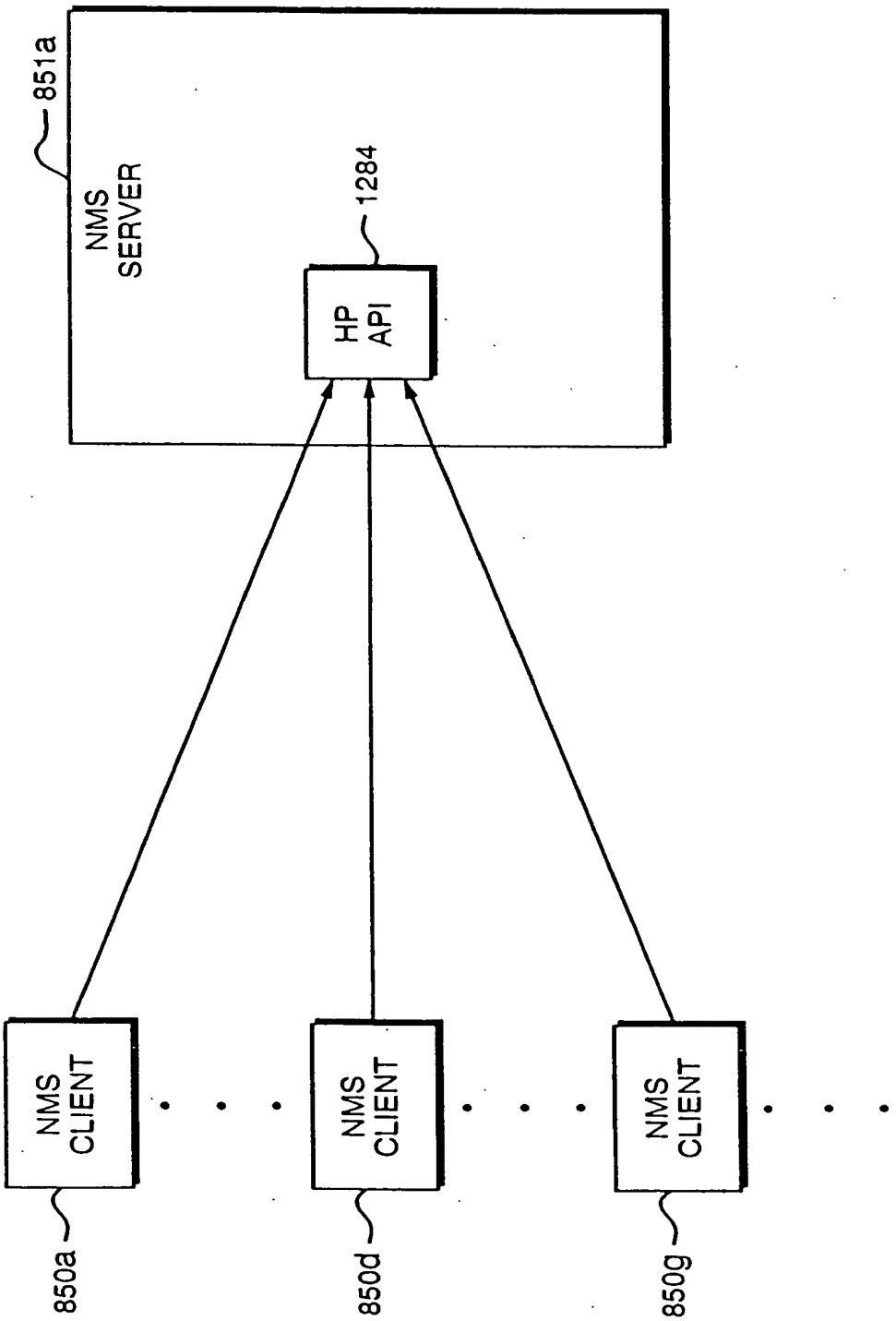


FIG. 2H

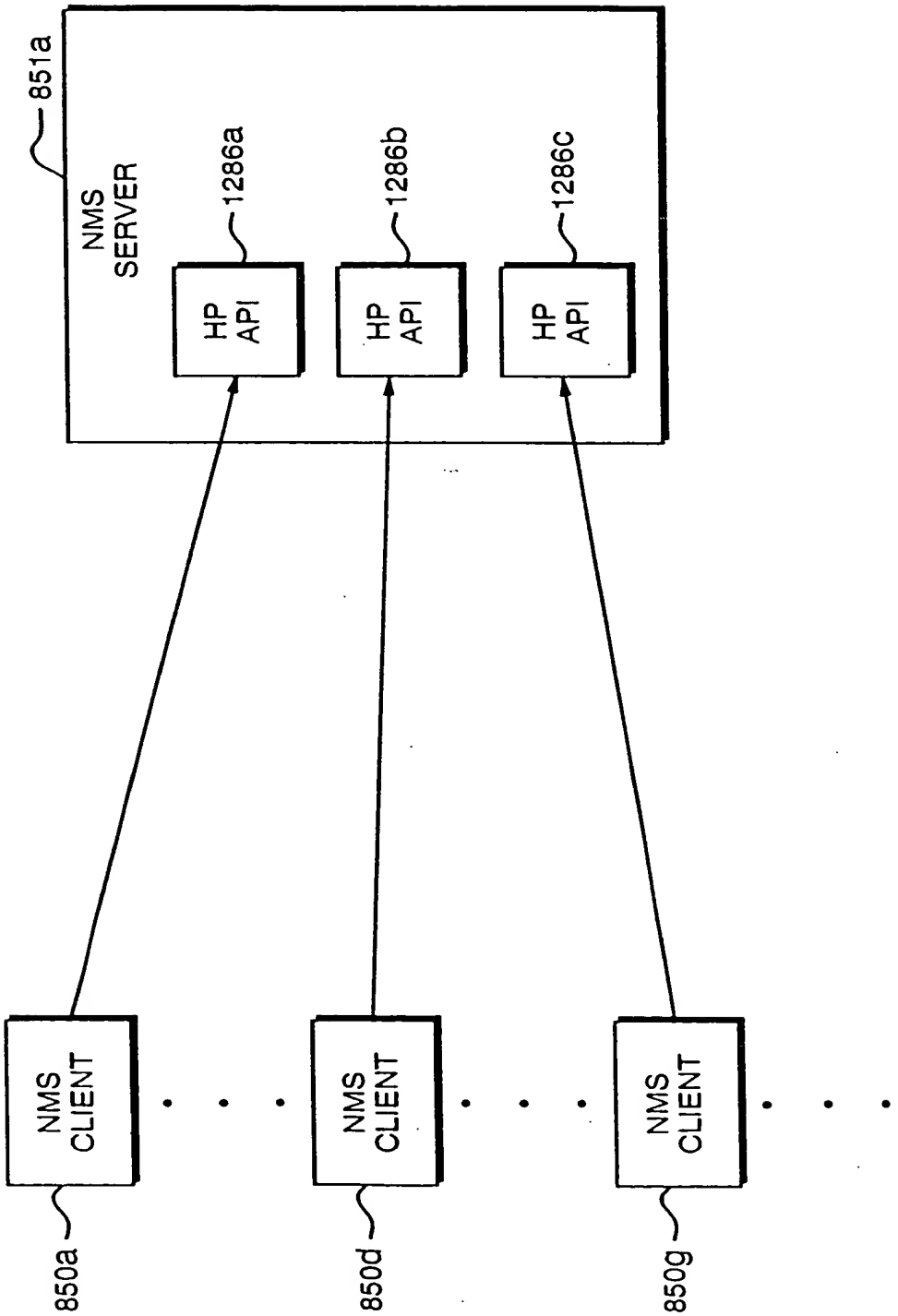


FIG. 2I

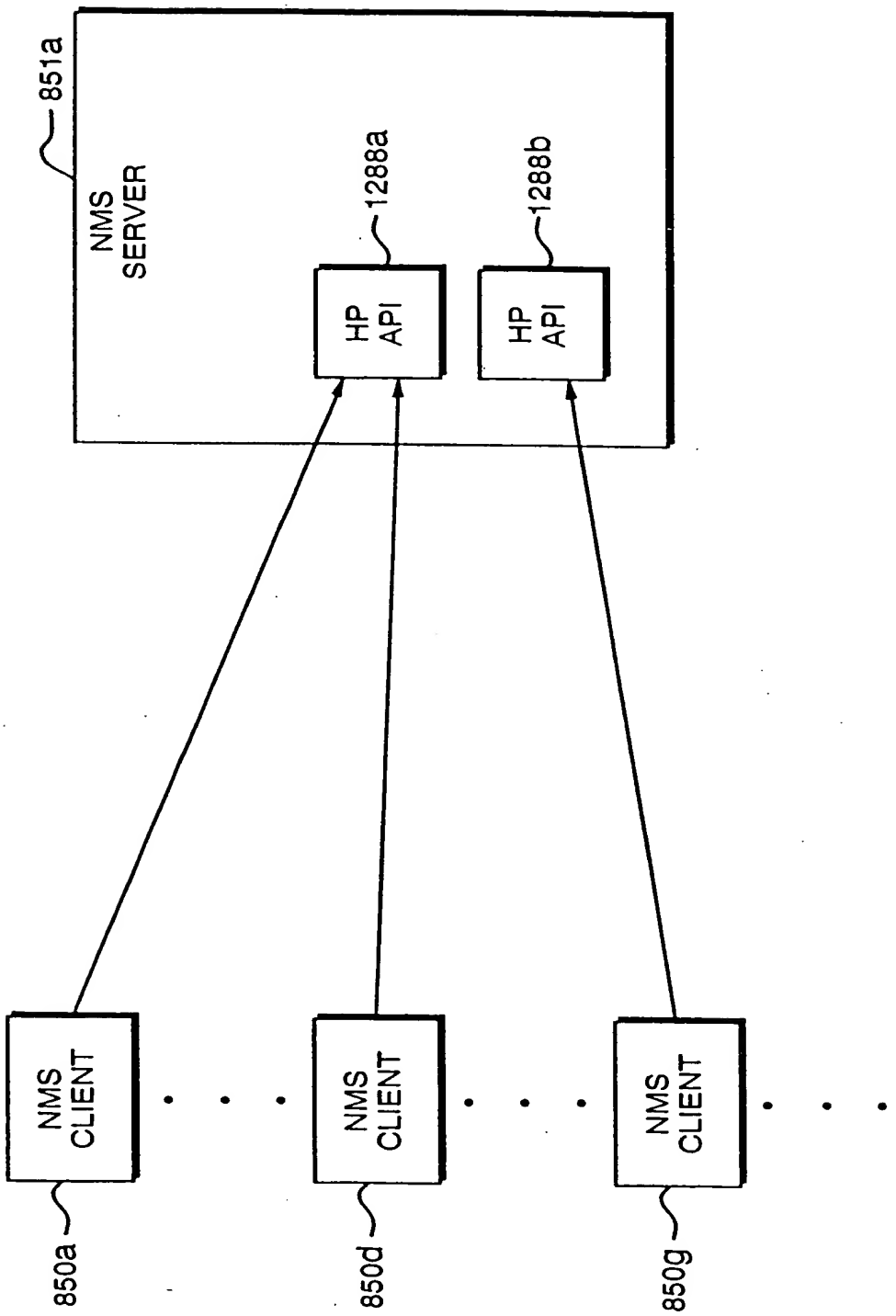


FIG. 2J

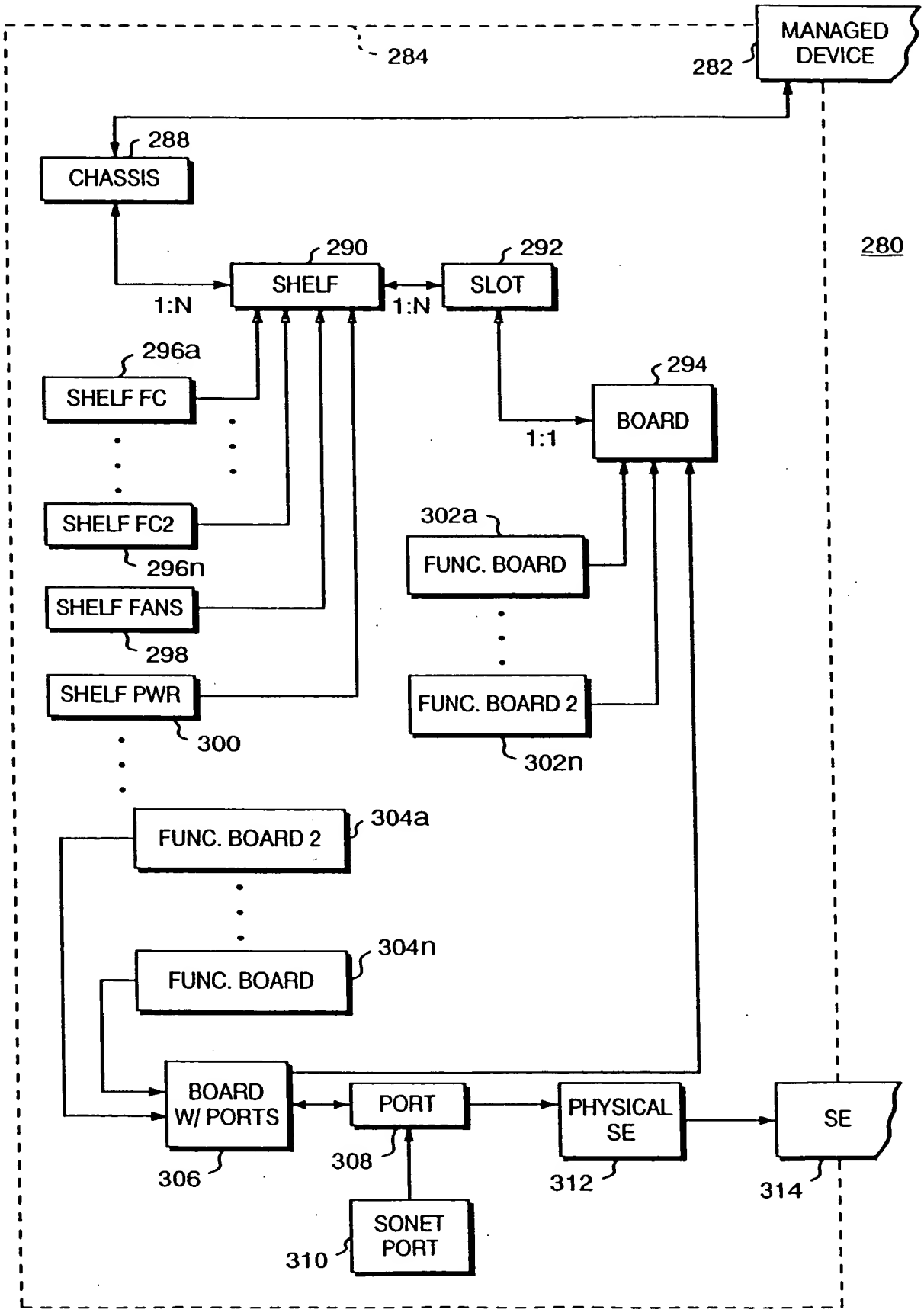


FIG. 3A

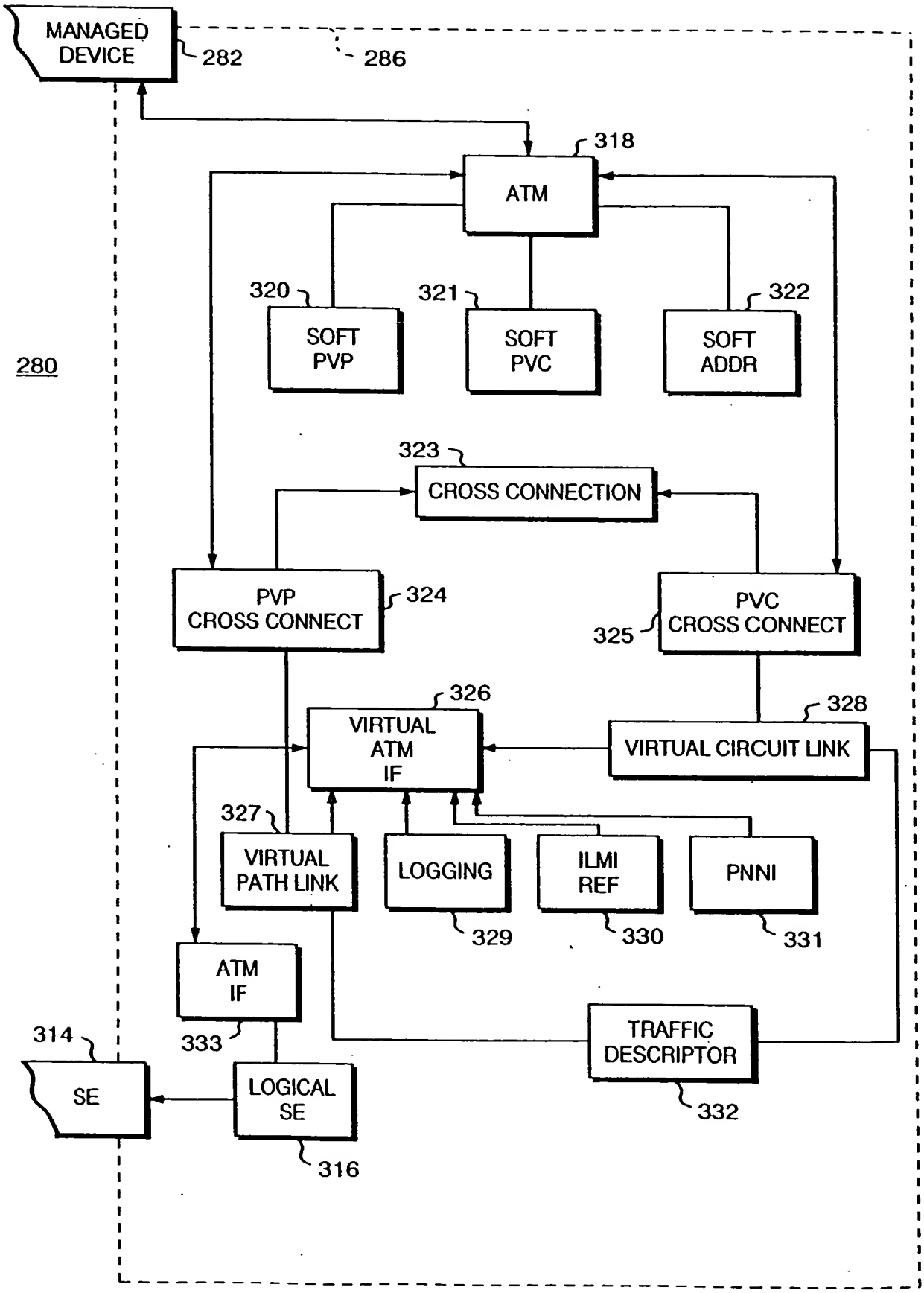


FIG. 3B

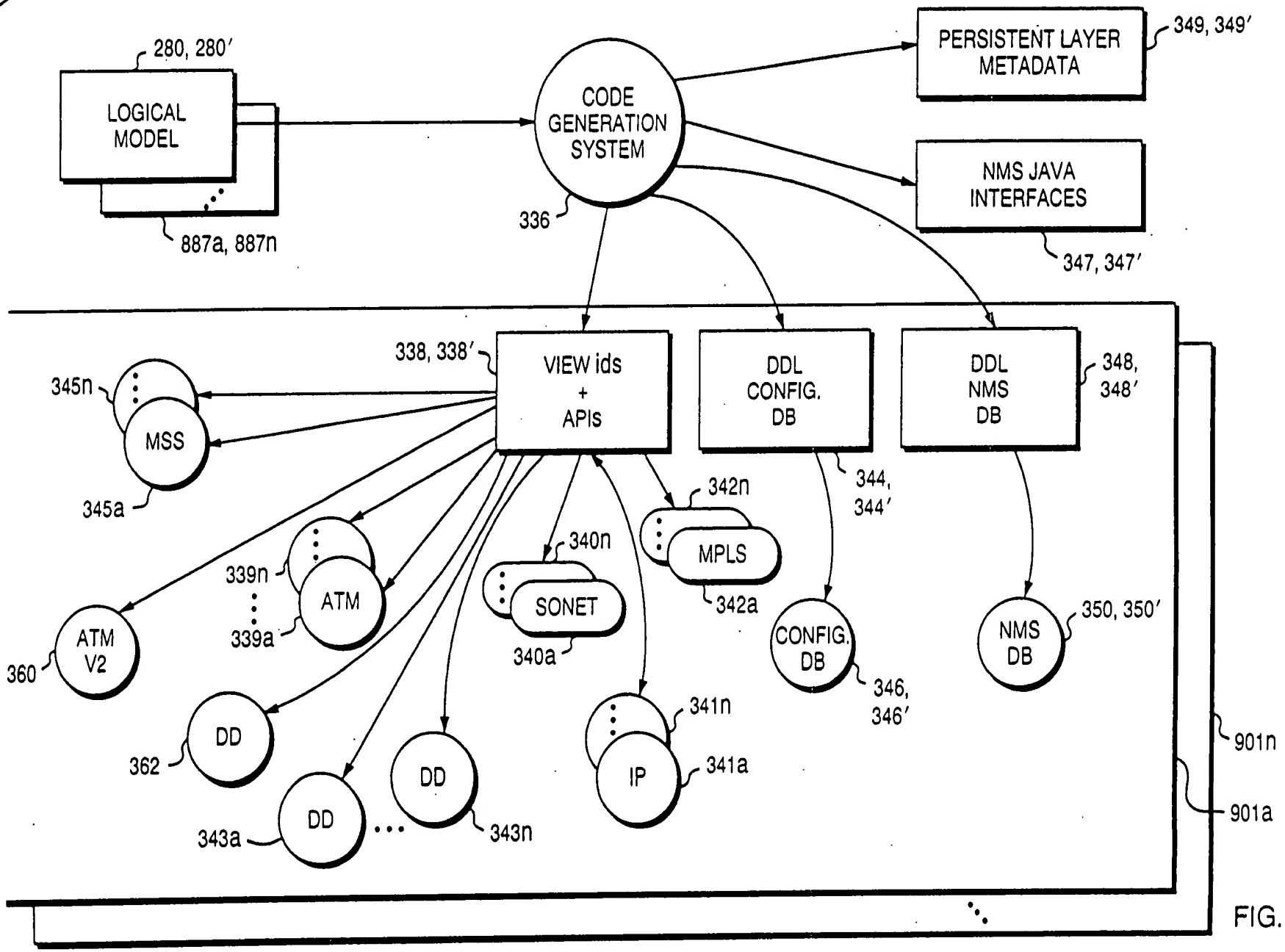


FIG. 3C

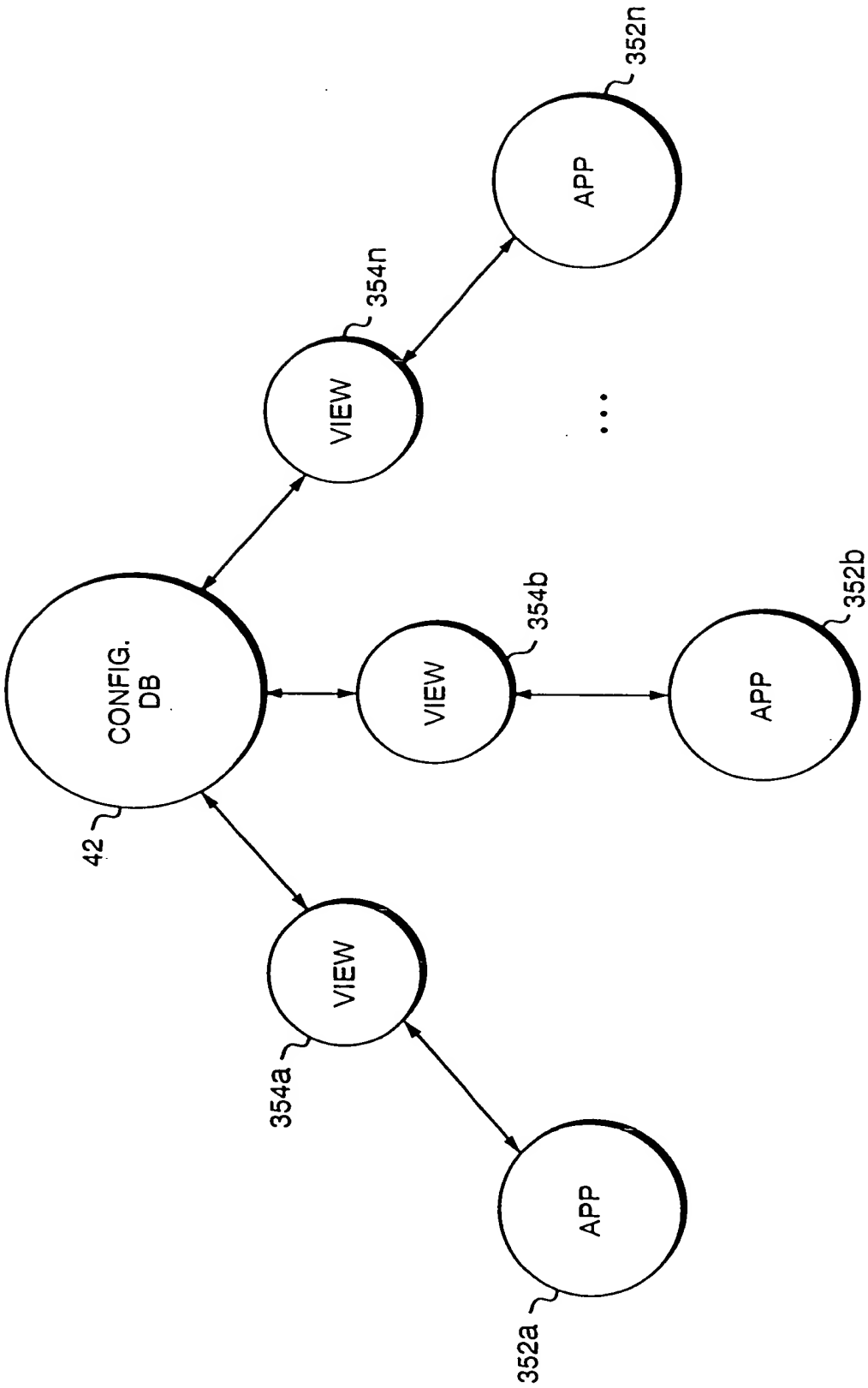


FIG. 3D

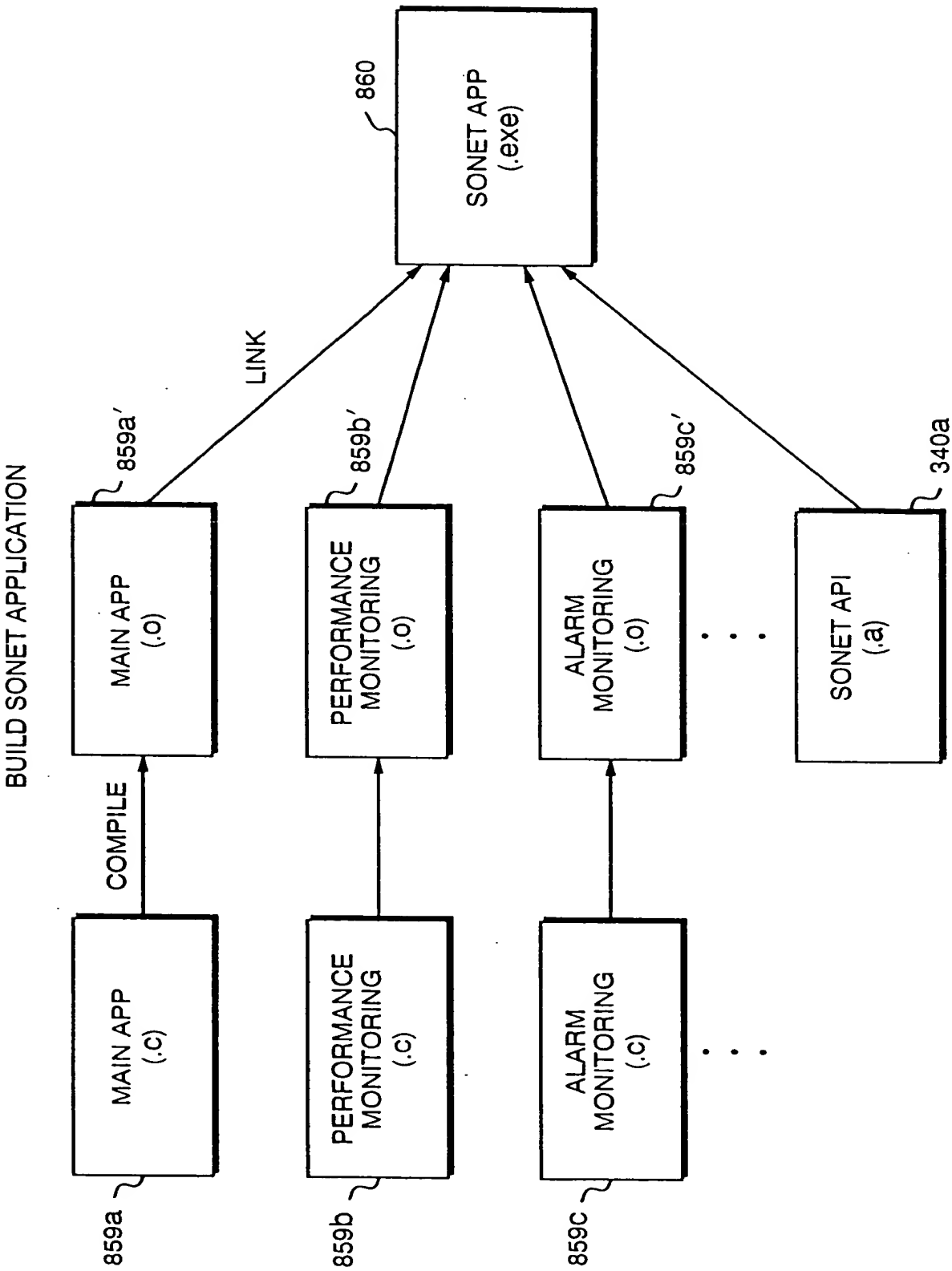


FIG. 3E

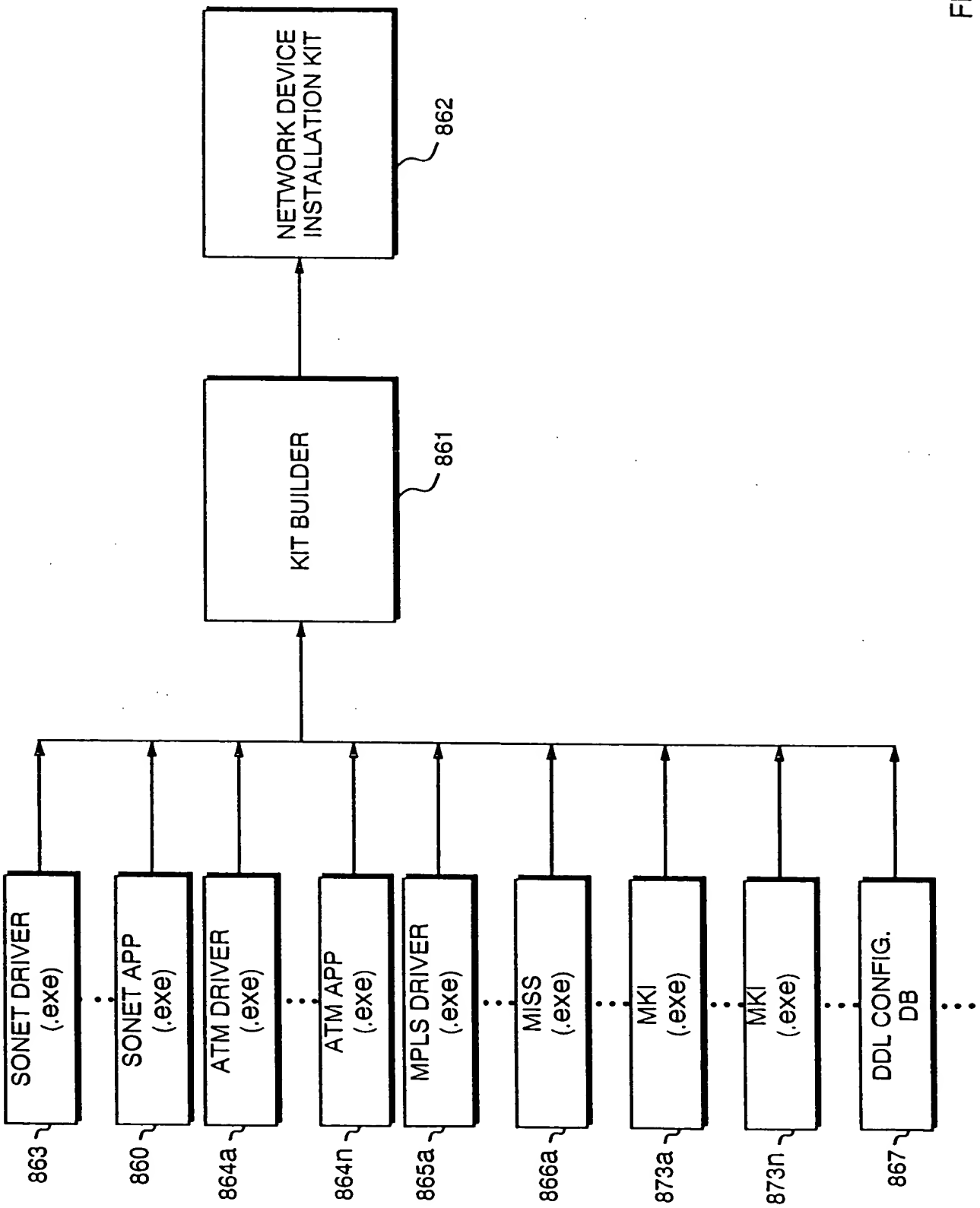


FIG. 3F

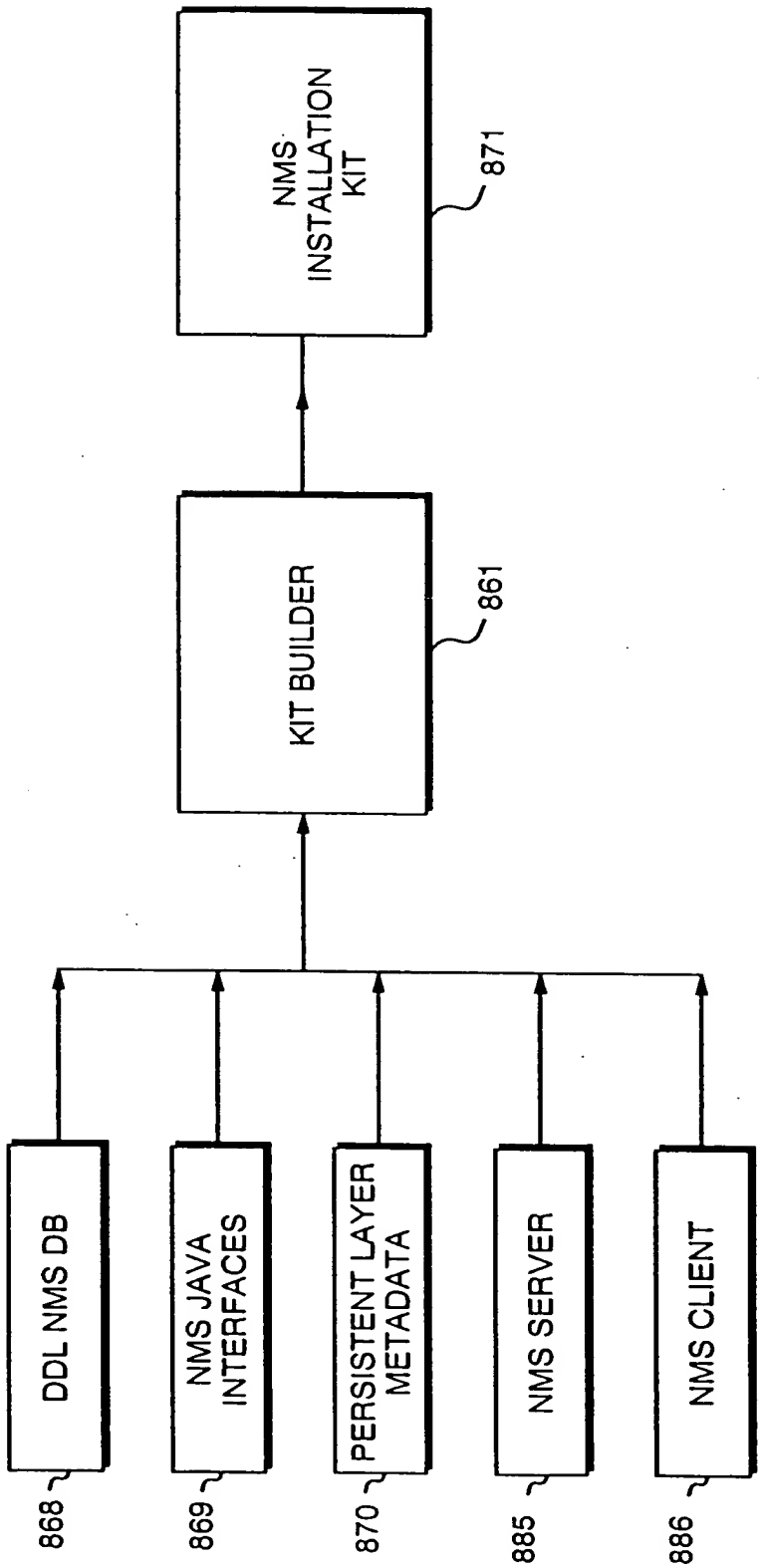


FIG. 3G

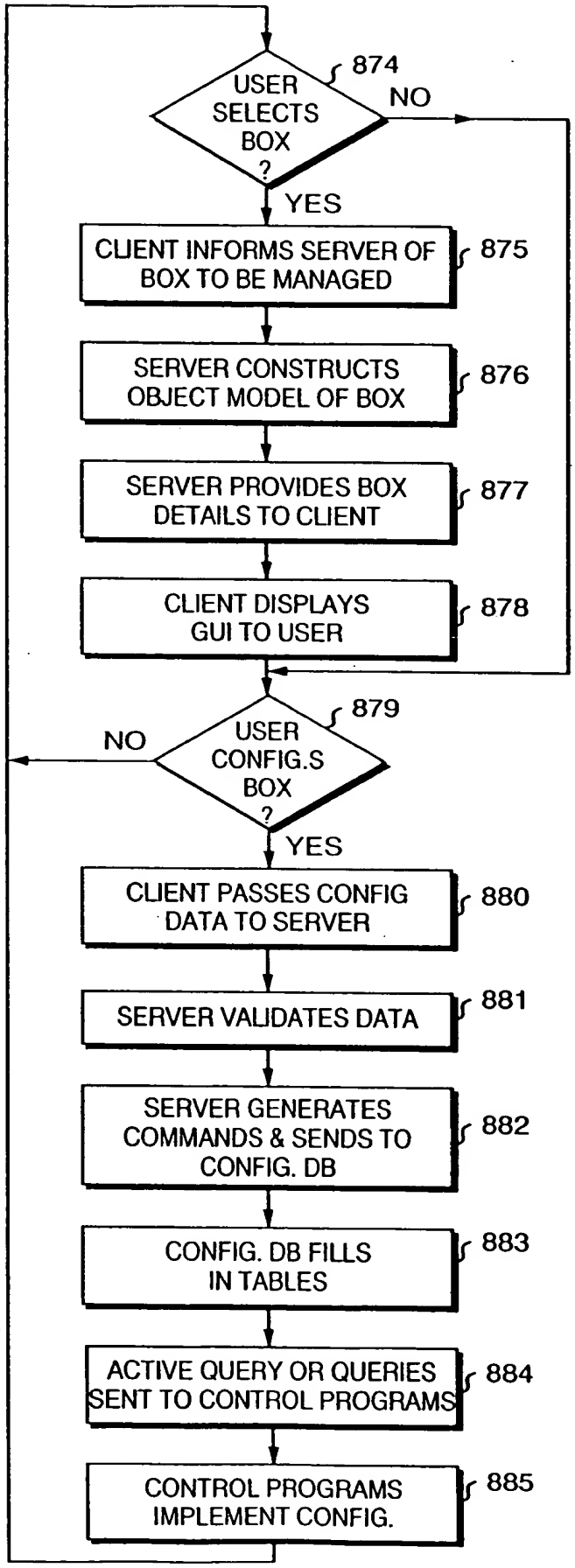


FIG. 3H

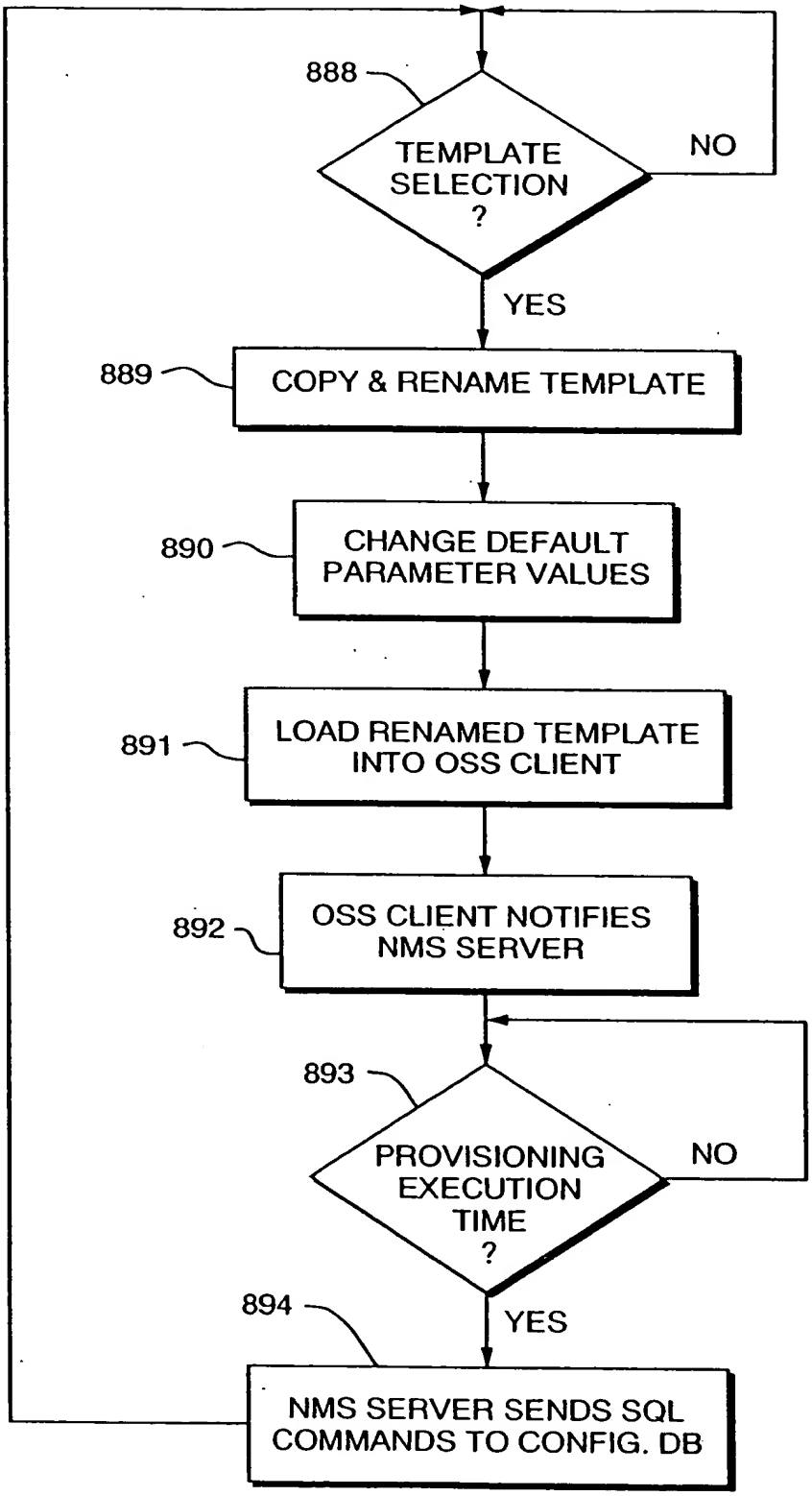
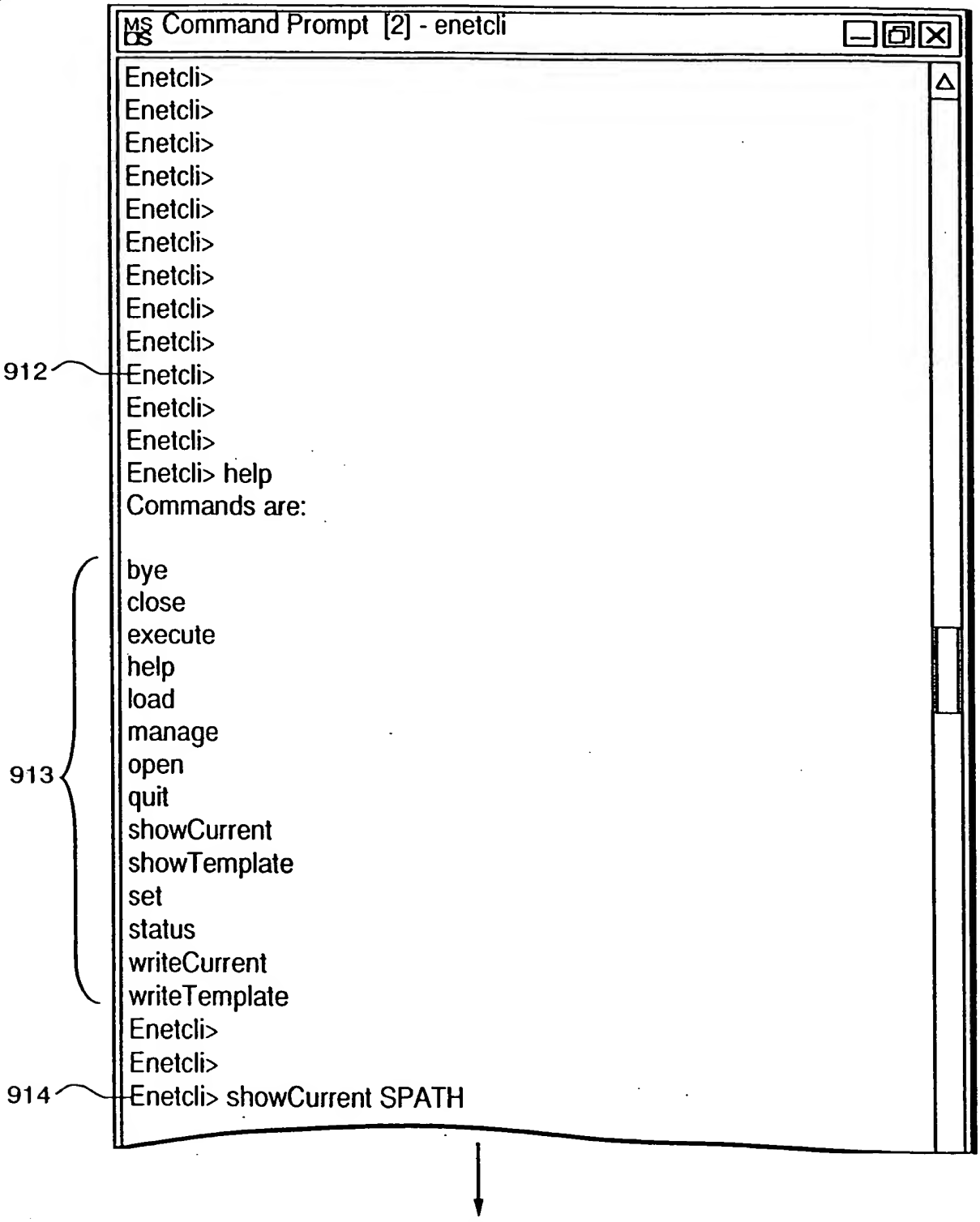


FIG. 3I



TO FIG. 3K

FIG. 3J

FROM FIG. 3J

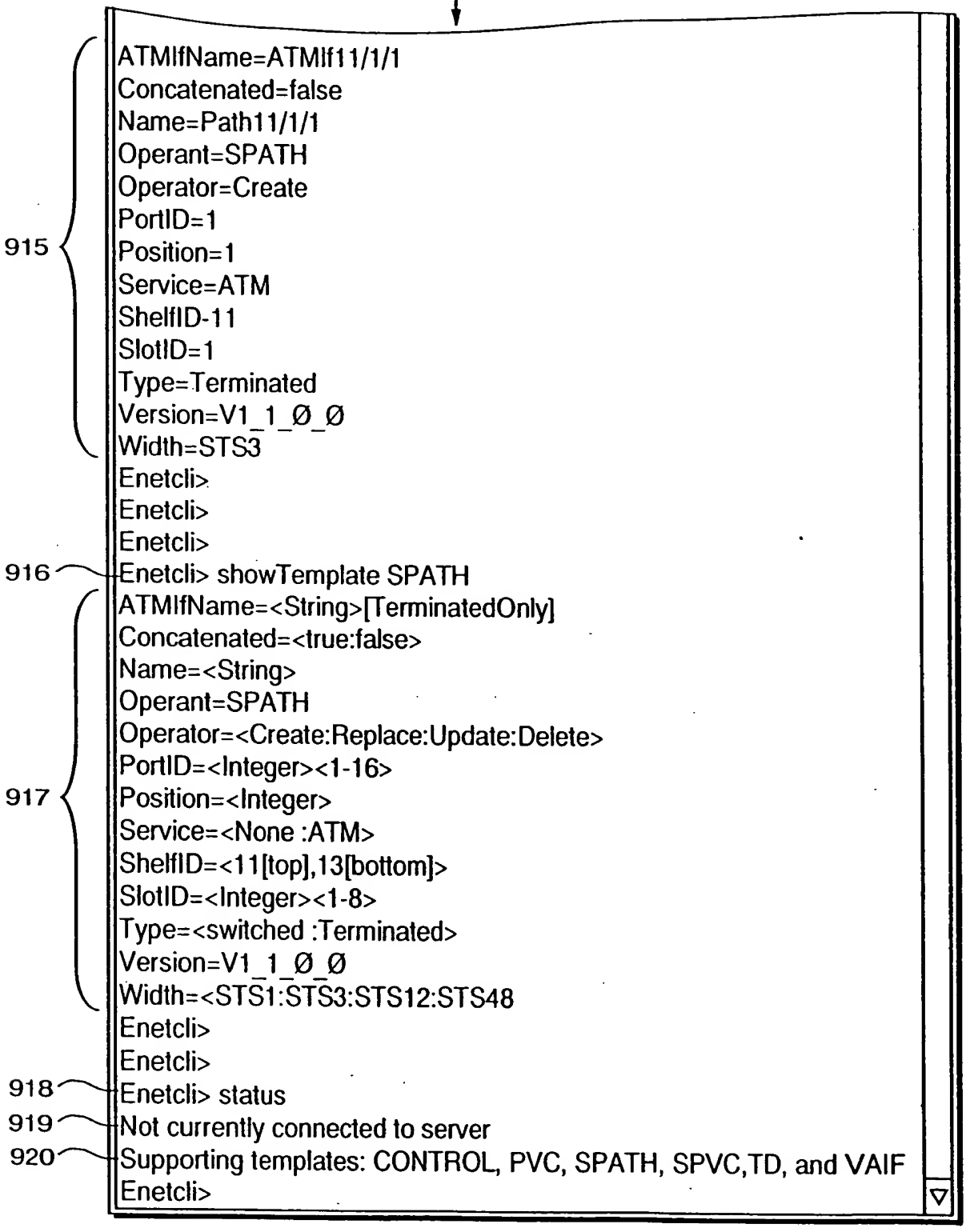


FIG. 3K

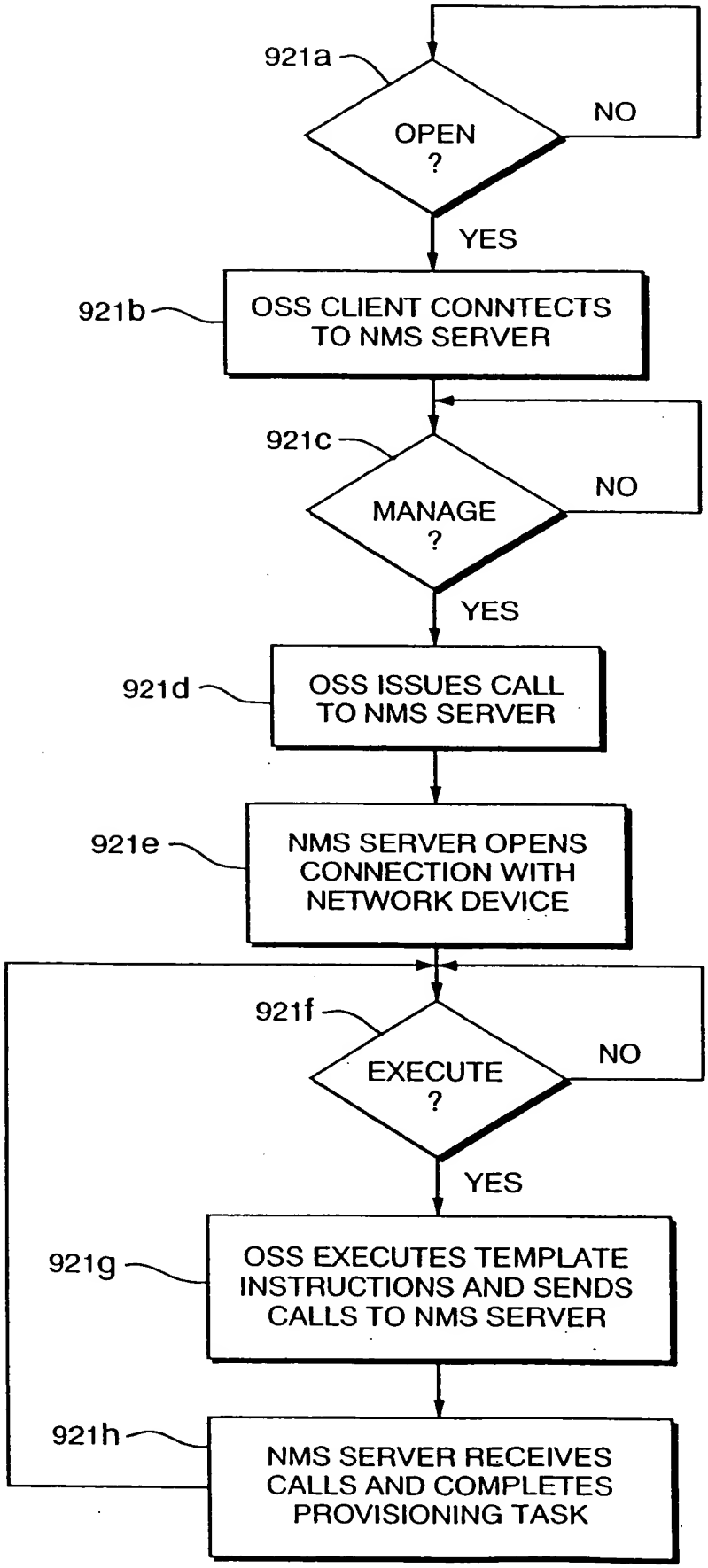


FIG. 3L

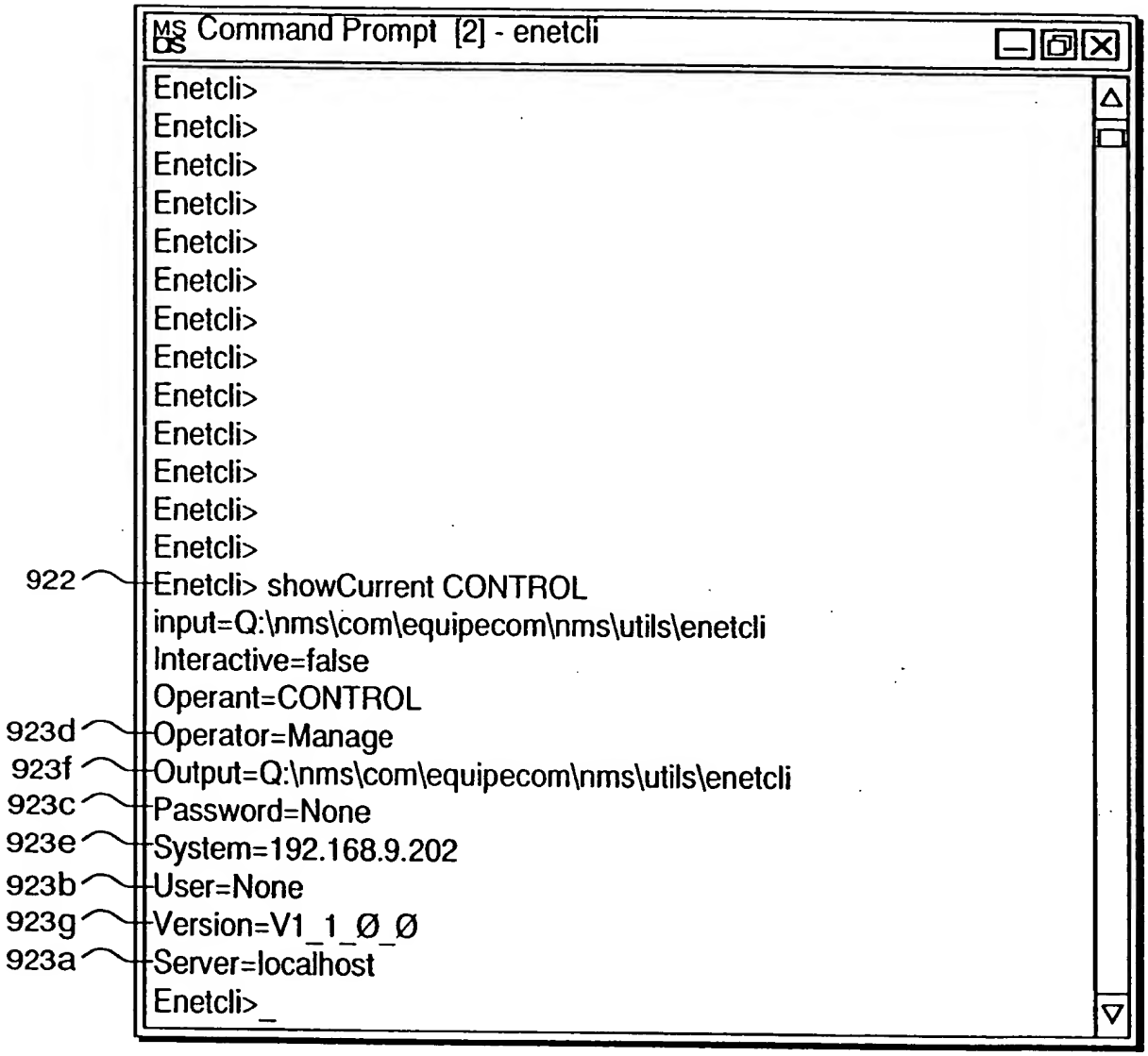


FIG. 3M

Operant=BATCH
Operator=Execute
Version=V1_1_0_0

924a ~ TASK1=execute-SPATH
924b ~ TASK2=execute-PVC
924c ~ TASK3=execute-SPVC
924d ~ TASK4=load-SPVC-spvc1
924e ~ TASK5=execute-SPVC
924f ~ TASK6=load-SPVC-spvc2
924e ~ TASK7=execute-SPVC

•
•
•

924g ~ TASK50=set-SPATH-PortID-3
924h ~ TASK51=execute-SPATH
924i ~ TASK52=set-SPATH-SlotID-2
924j ~ TASK53=execute-SPATH

FIG. 3N

925

Operant=BATCH
Operator=Execute
Version=V1_1_0_0
925a TASK1=execute-CONTROL
925b TASK2=execute-SPATH
925c TASK3=set-SPATH-PortID-3
925d TASK4=execute-SPATH
•
•
•
925e TASK61=set-CONTROL-System-192.168.9.201
925f TASK62=execute-CONTROL
925g TASK63=execute-SPATH
•
•
•
925h TASK108=close
925i TASK109=set-CONTROL-Server-Server1
925j TASK110=set-CONTROL-System-192.168.8.200
925k TASK111=execute-CONTROL
925l TASK112=execute-SPATH
•
•
•

FIG. 30

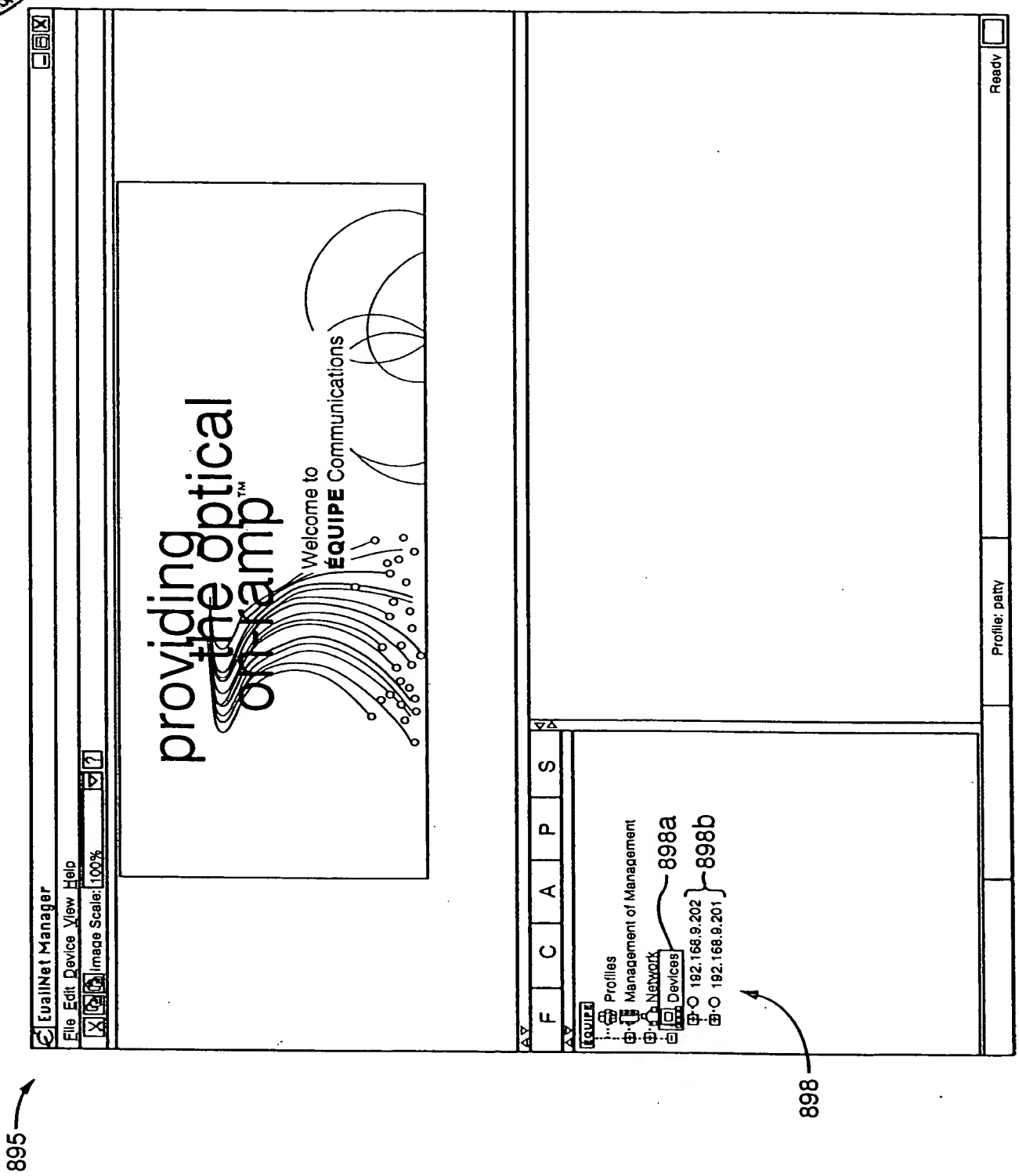


FIG. 4A

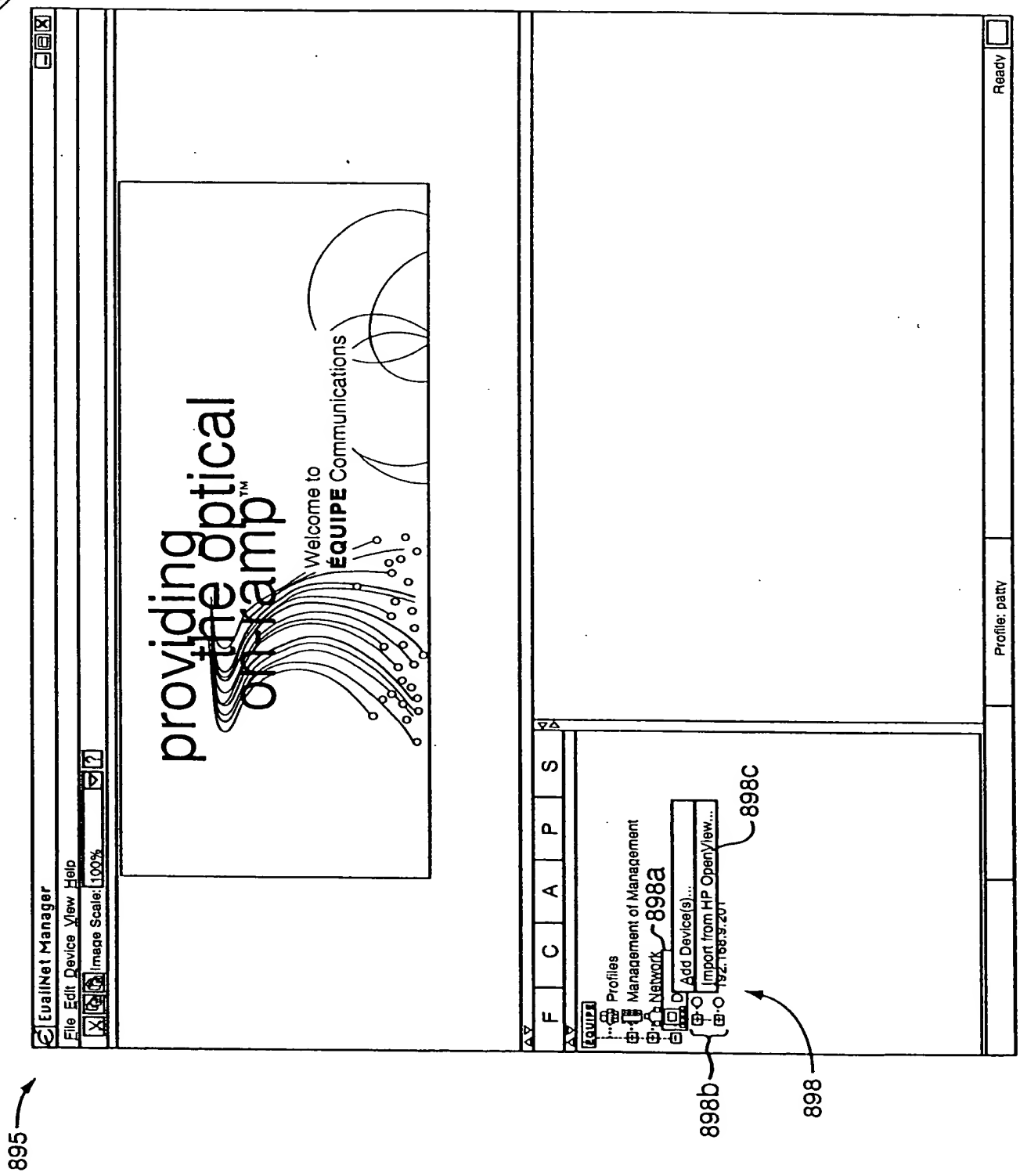


FIG. 4B

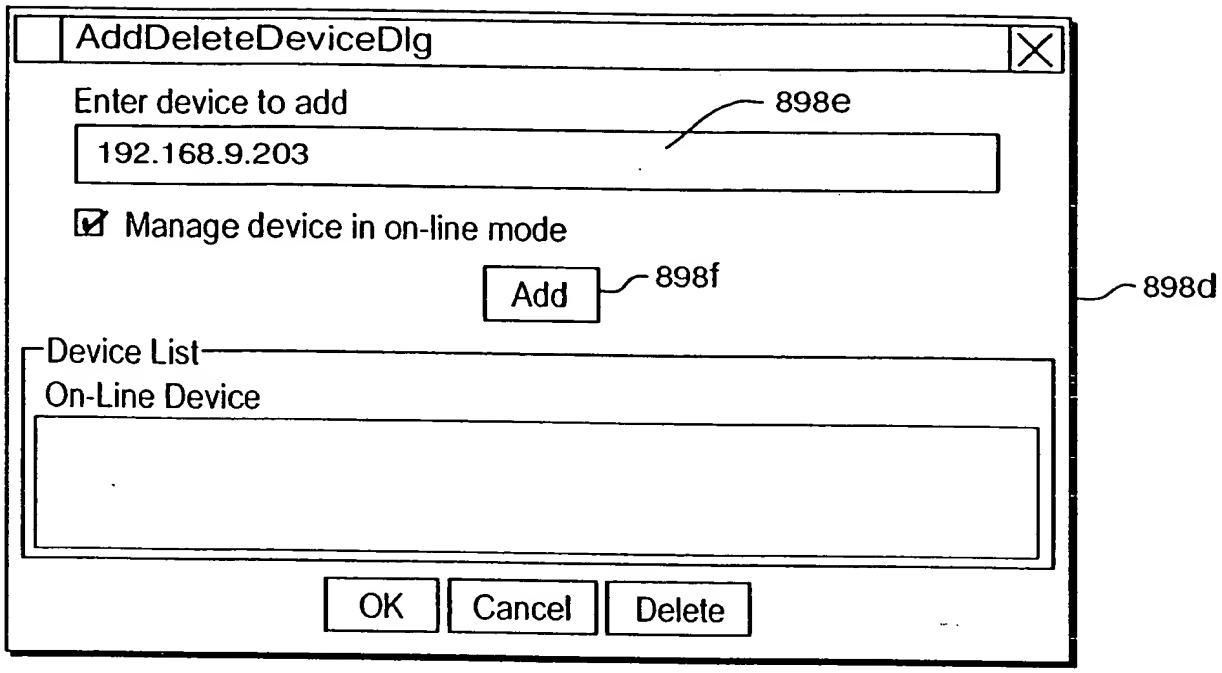


FIG. 4C

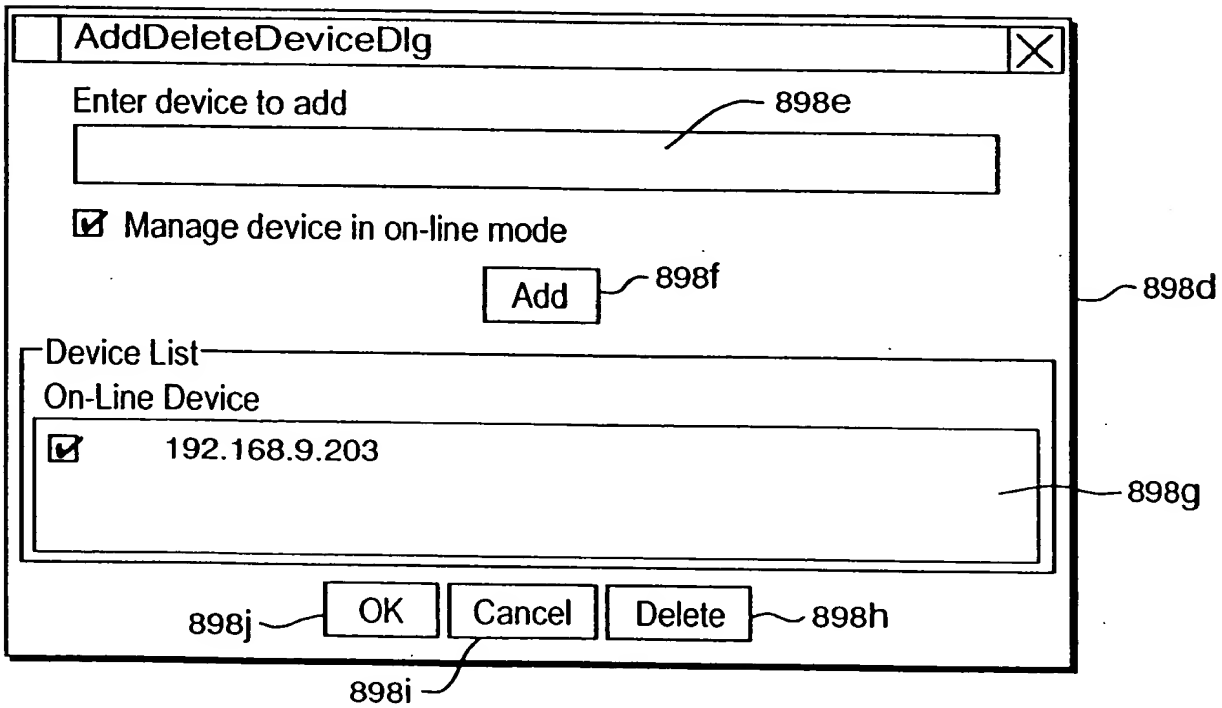


FIG. 4D

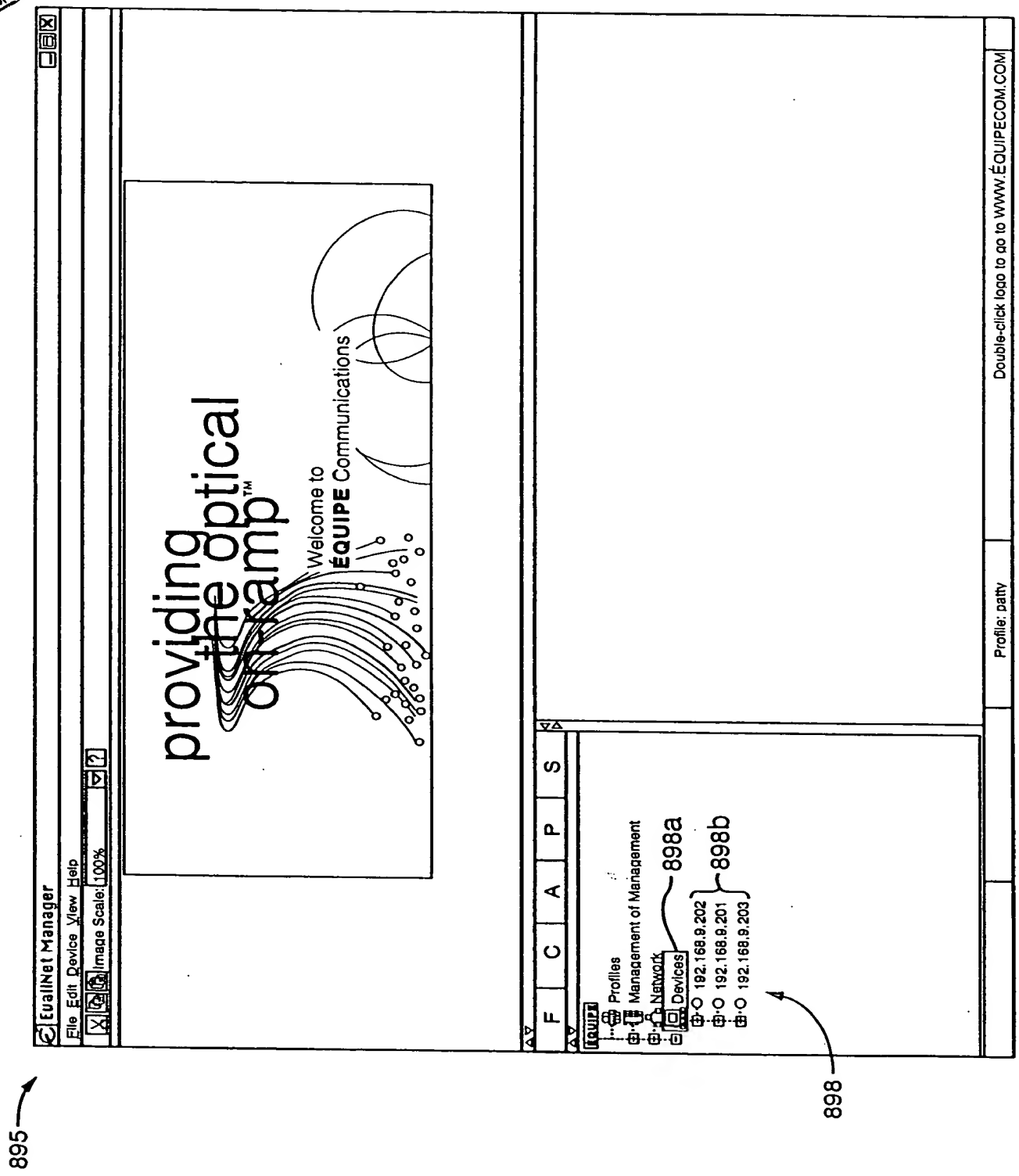


FIG. 4E

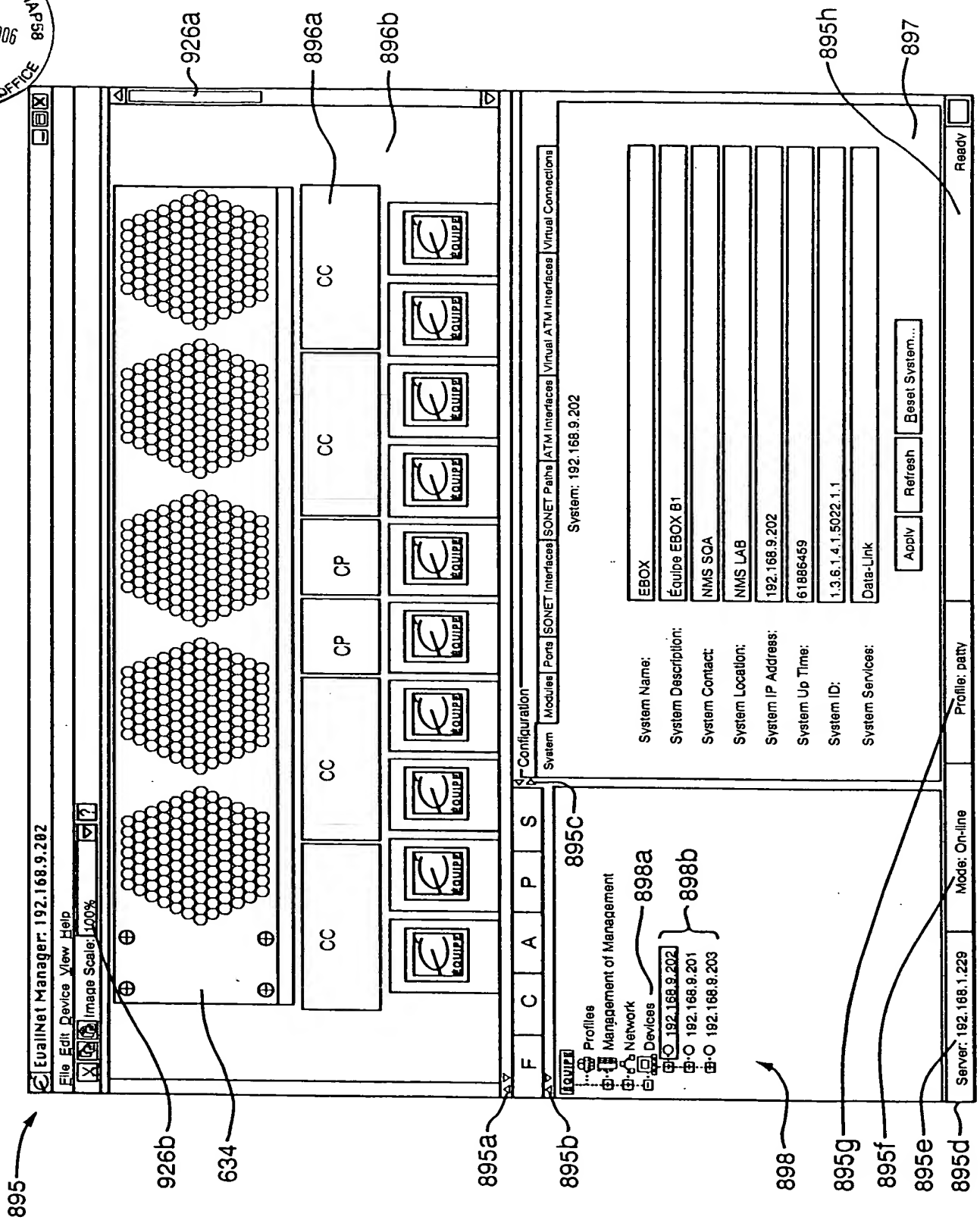


FIG. 4F

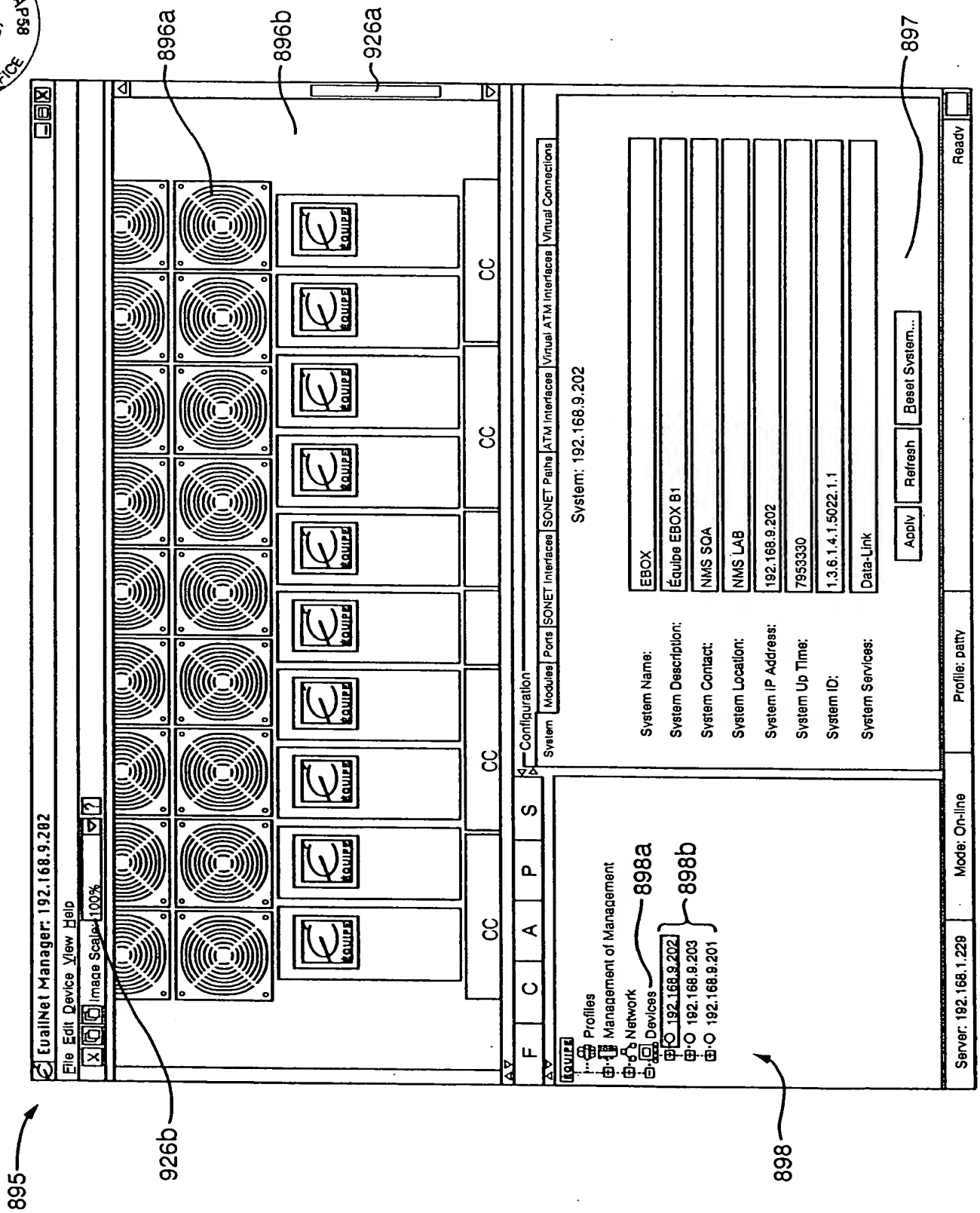


FIG. 4G

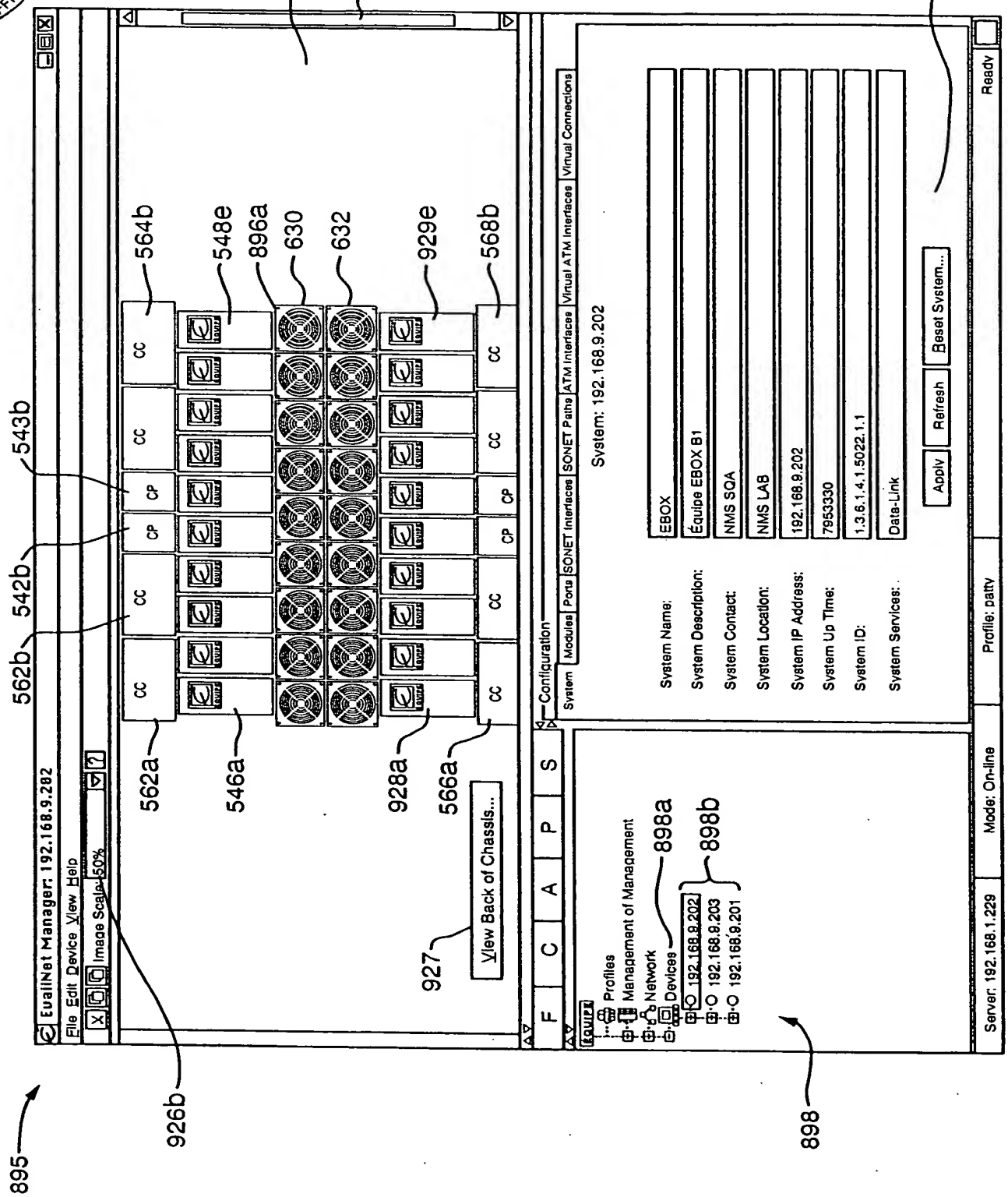


FIG. 4H

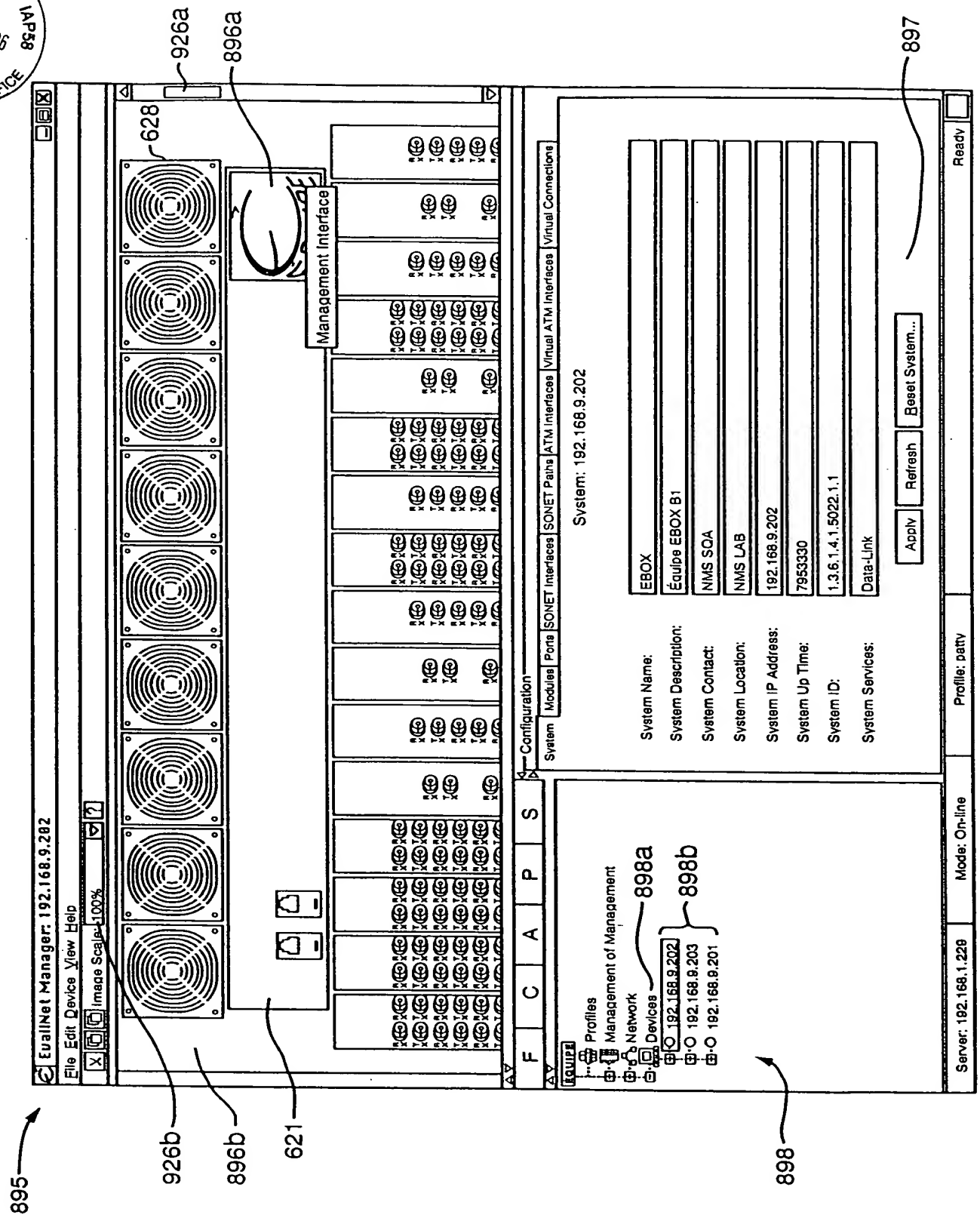


FIG. 41

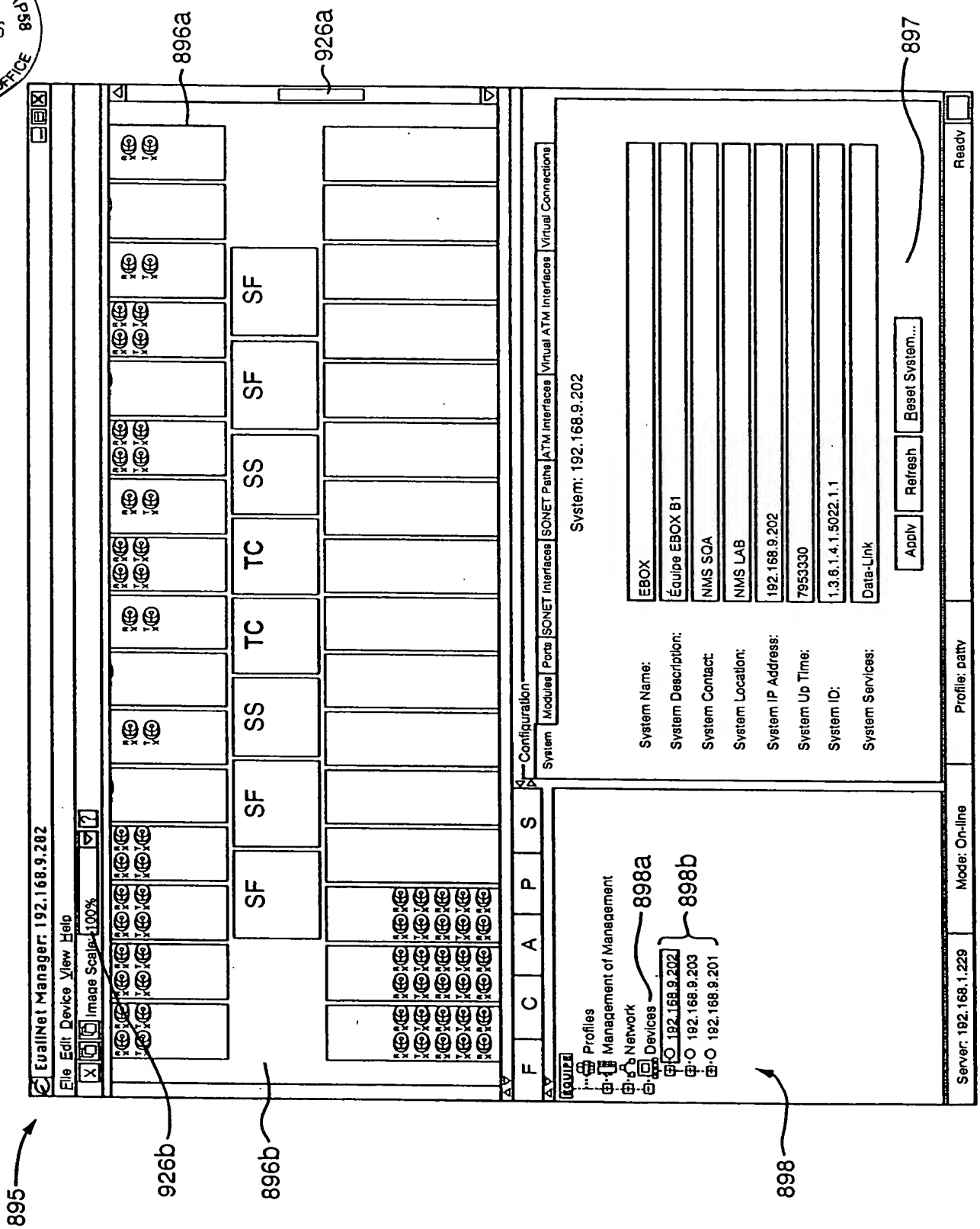


FIG. 4J

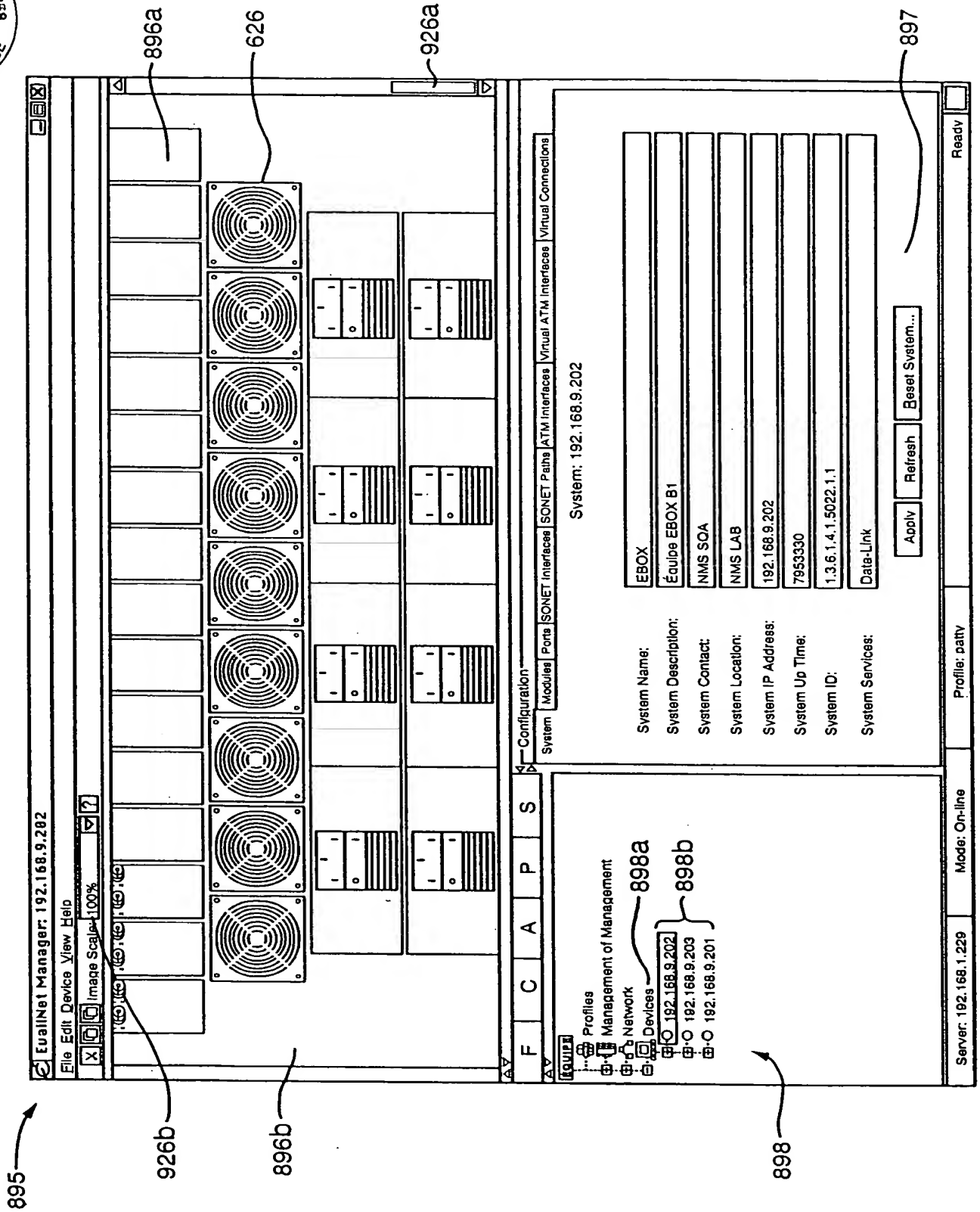


FIG. 4K

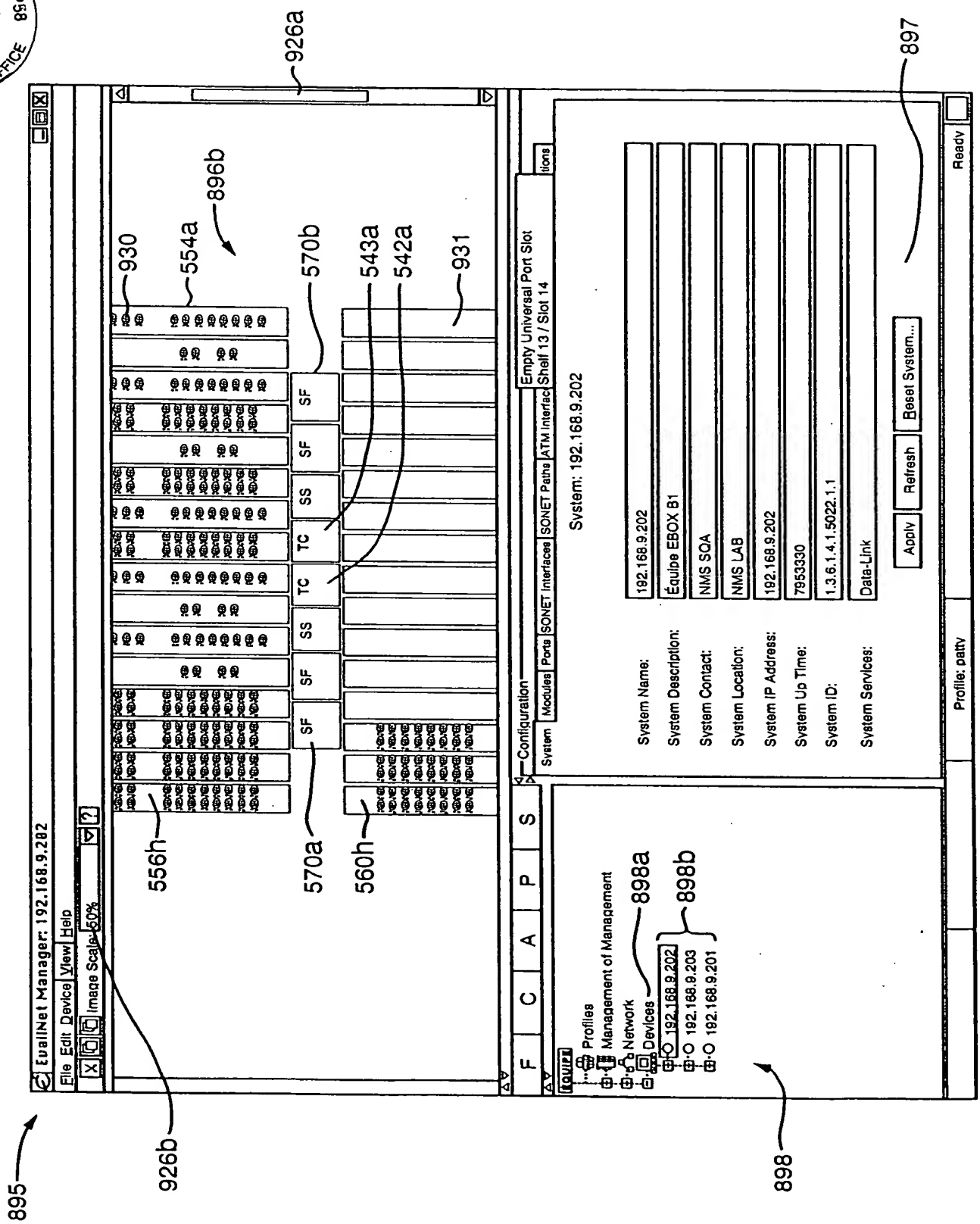


FIG. 4L

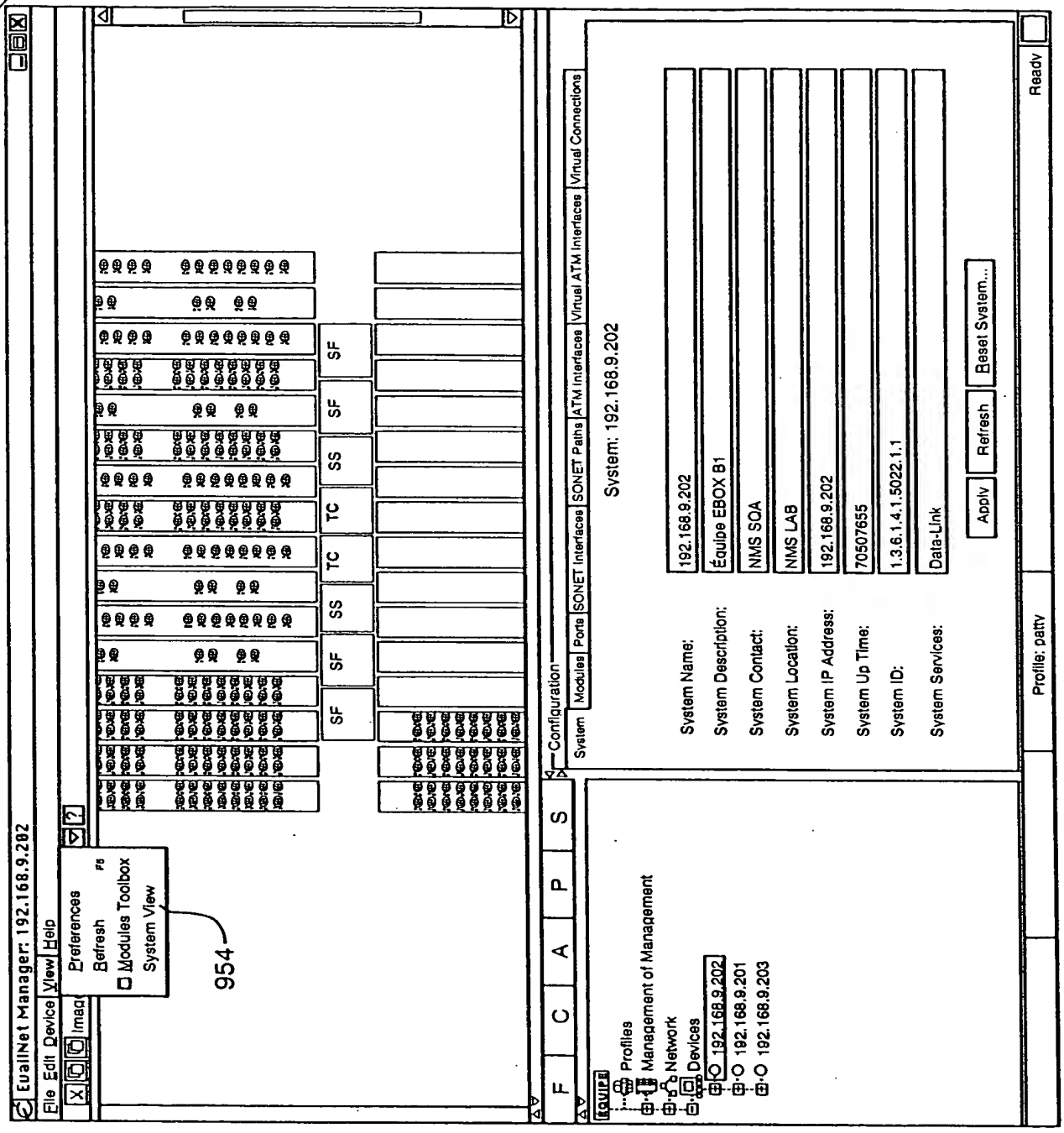


FIG. 4M

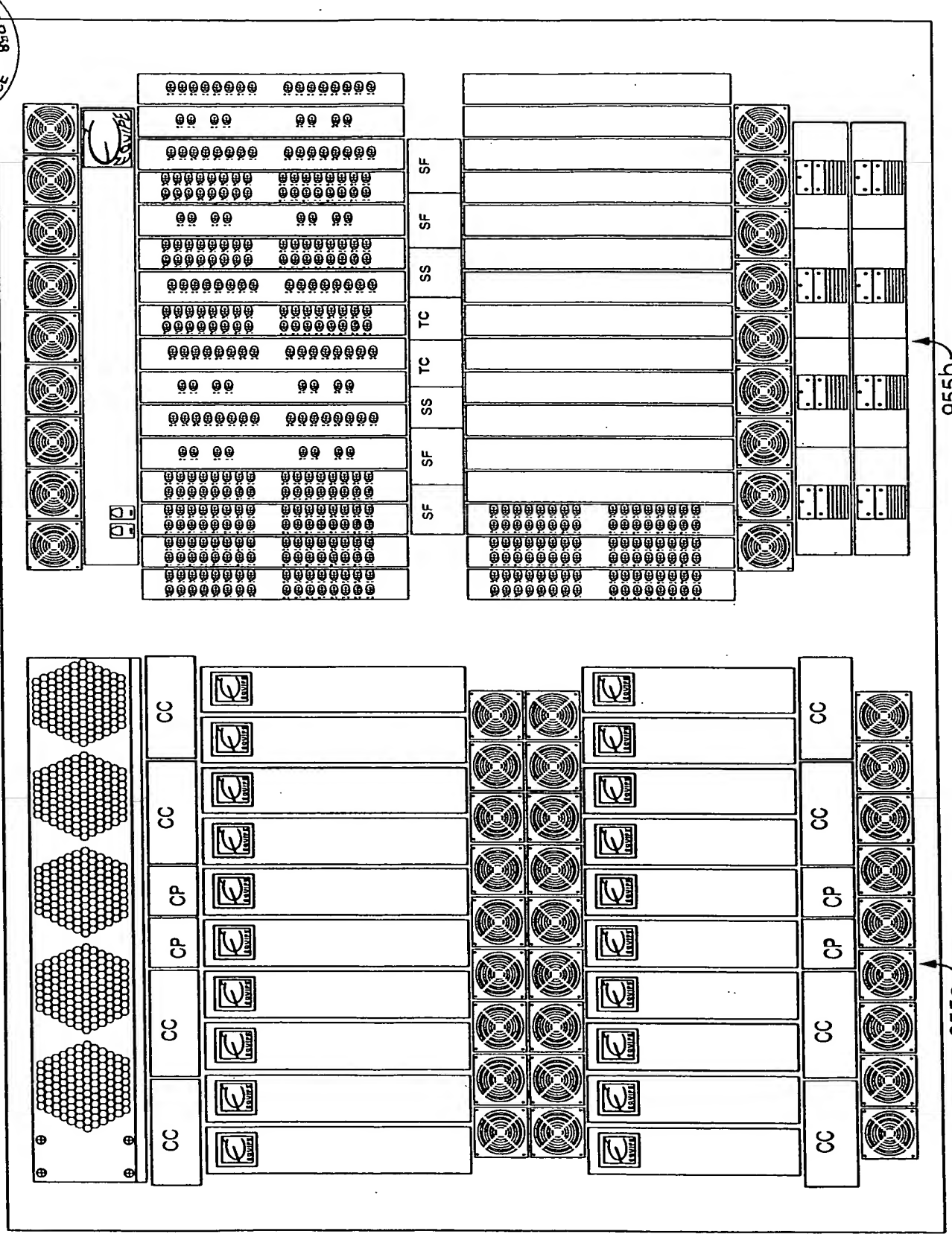


FIG. 4N

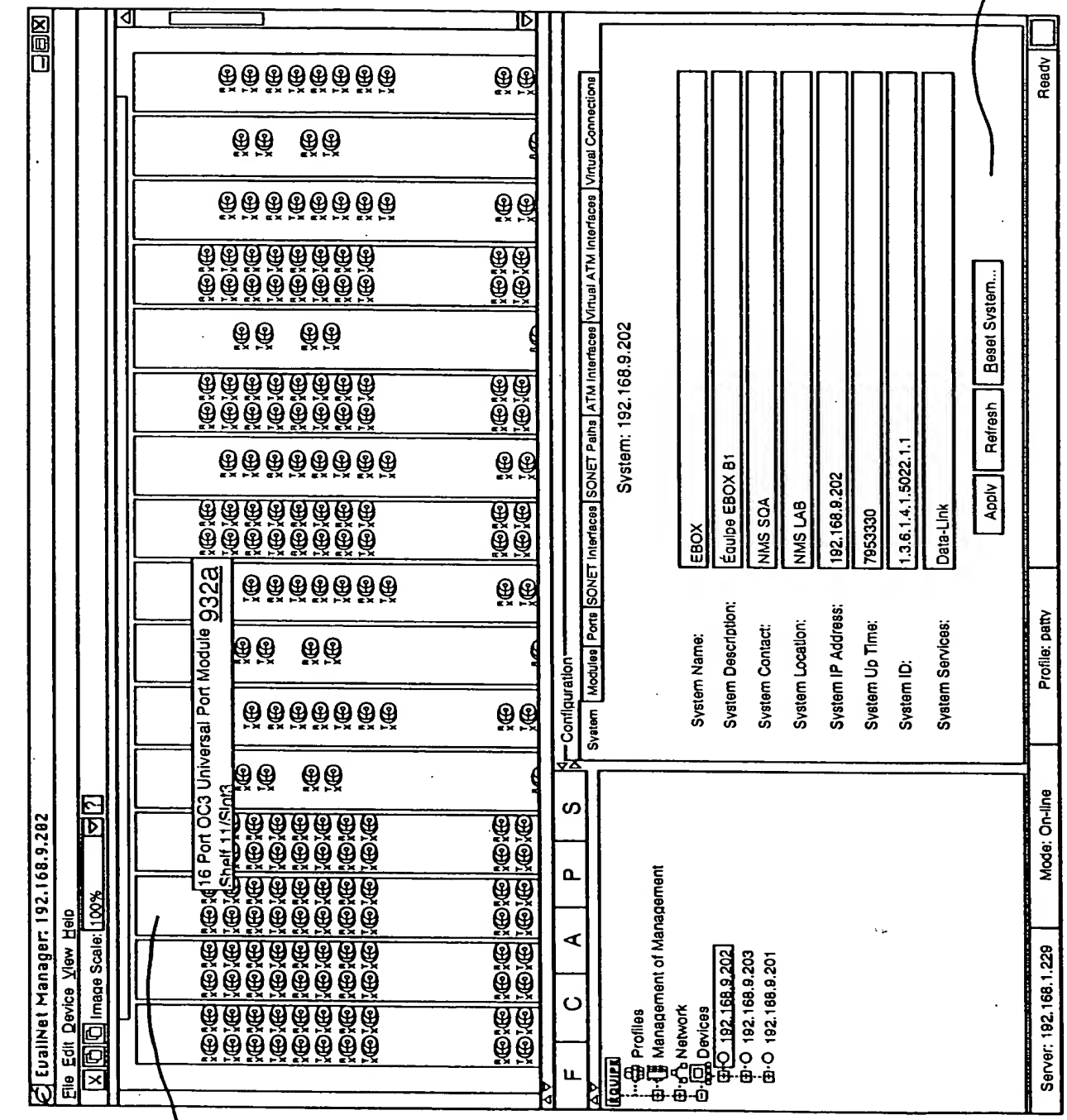


FIG. 40

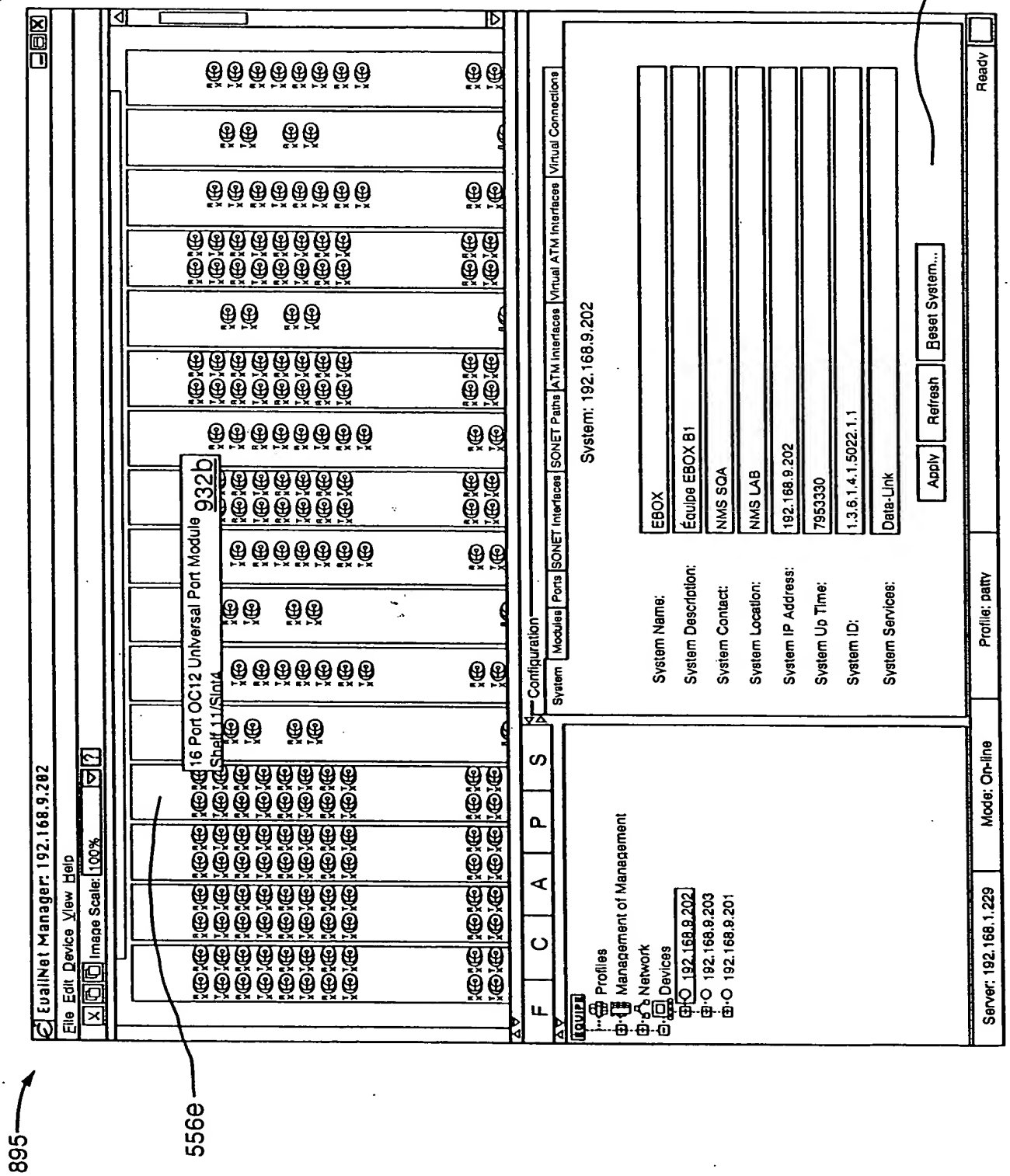


FIG. 4P

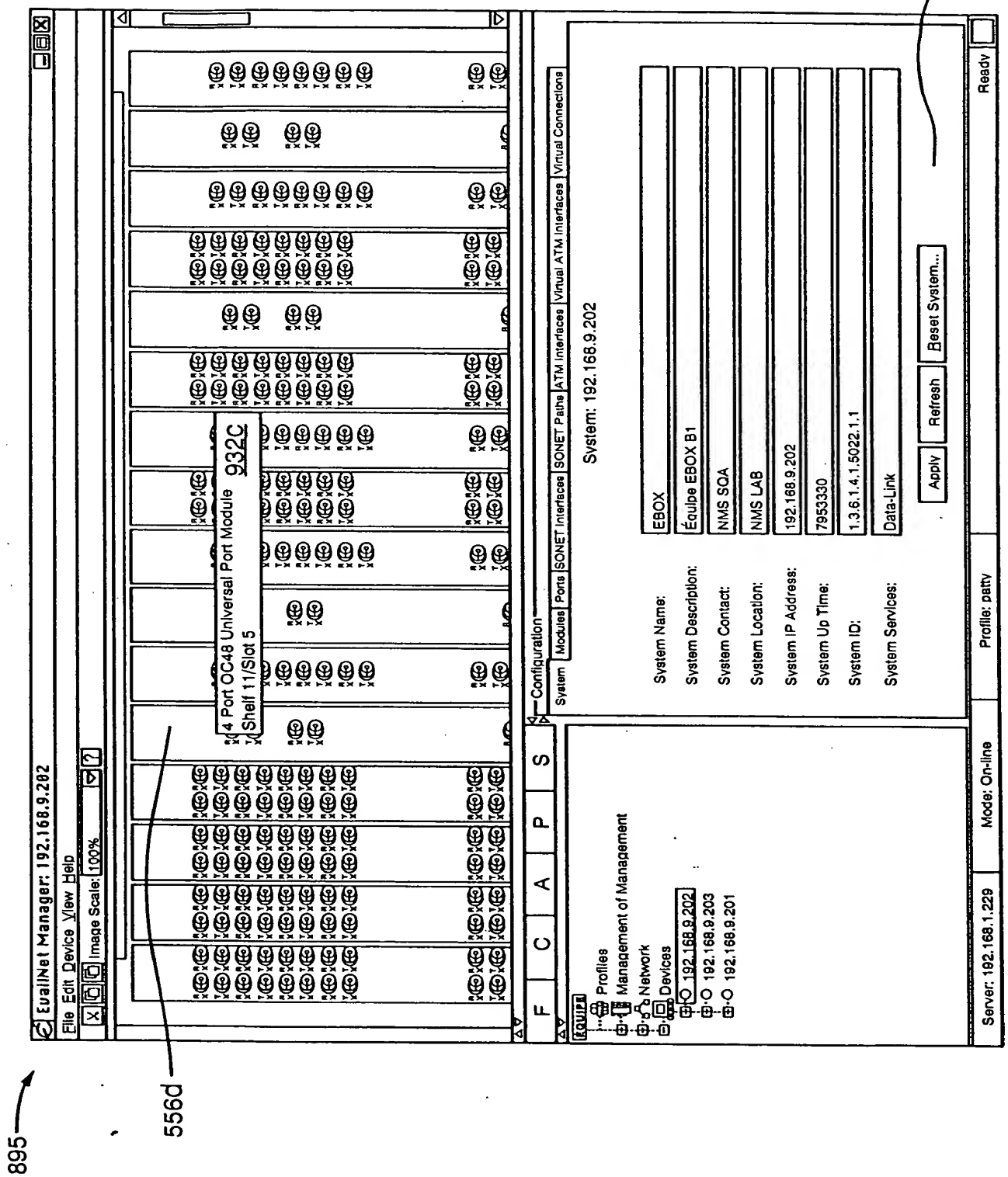


FIG. 4Q

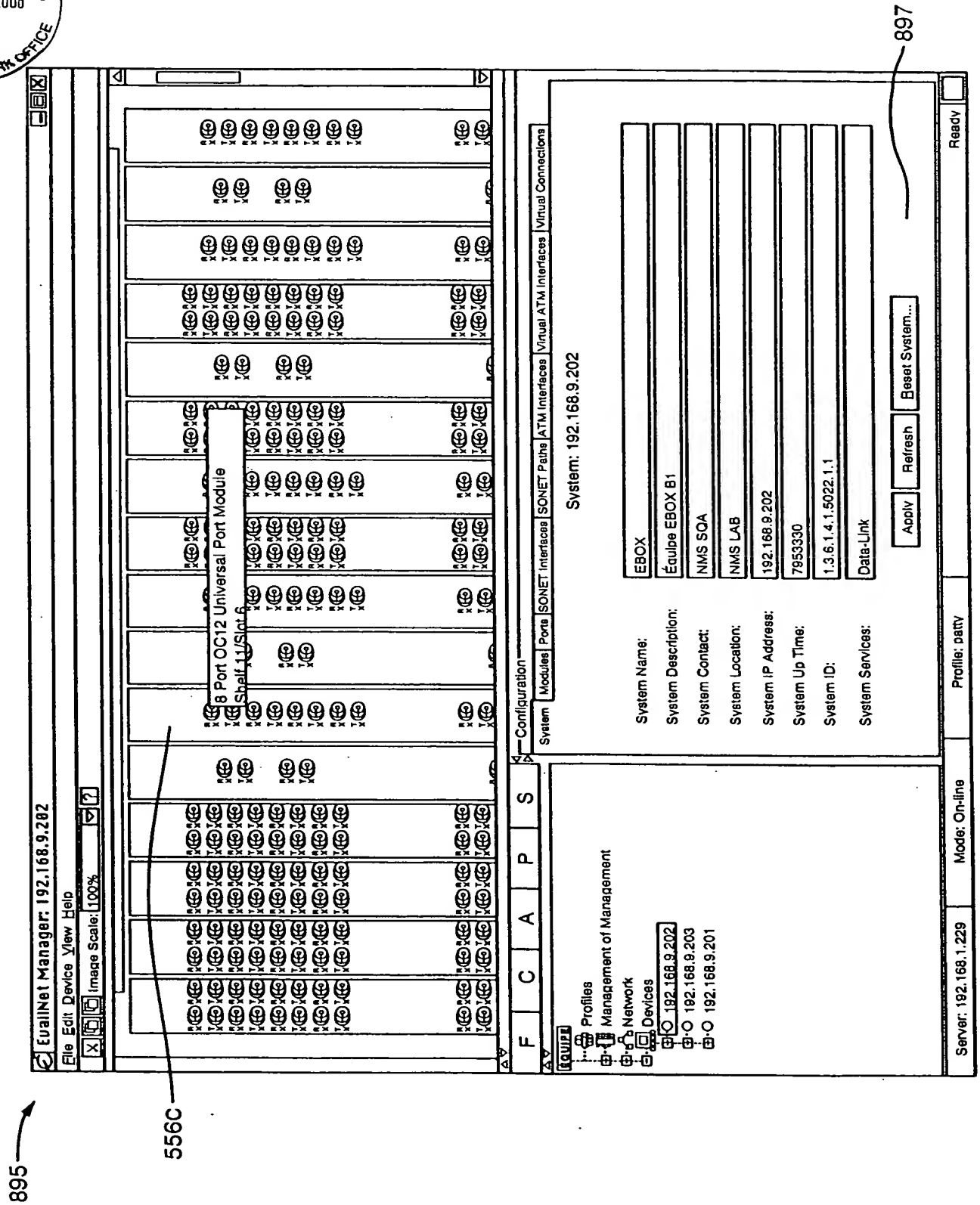


FIG. 4R

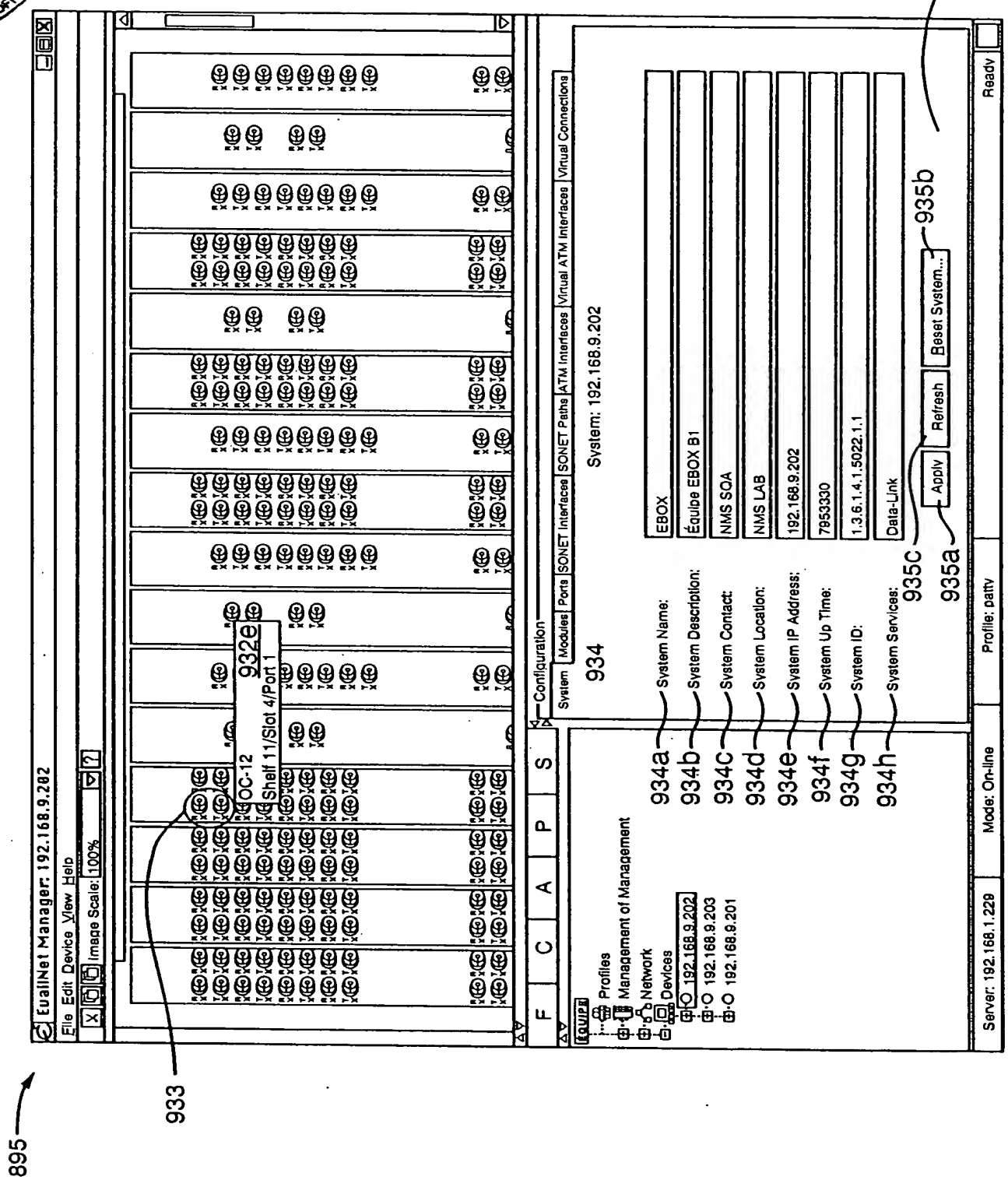


FIG. 4S

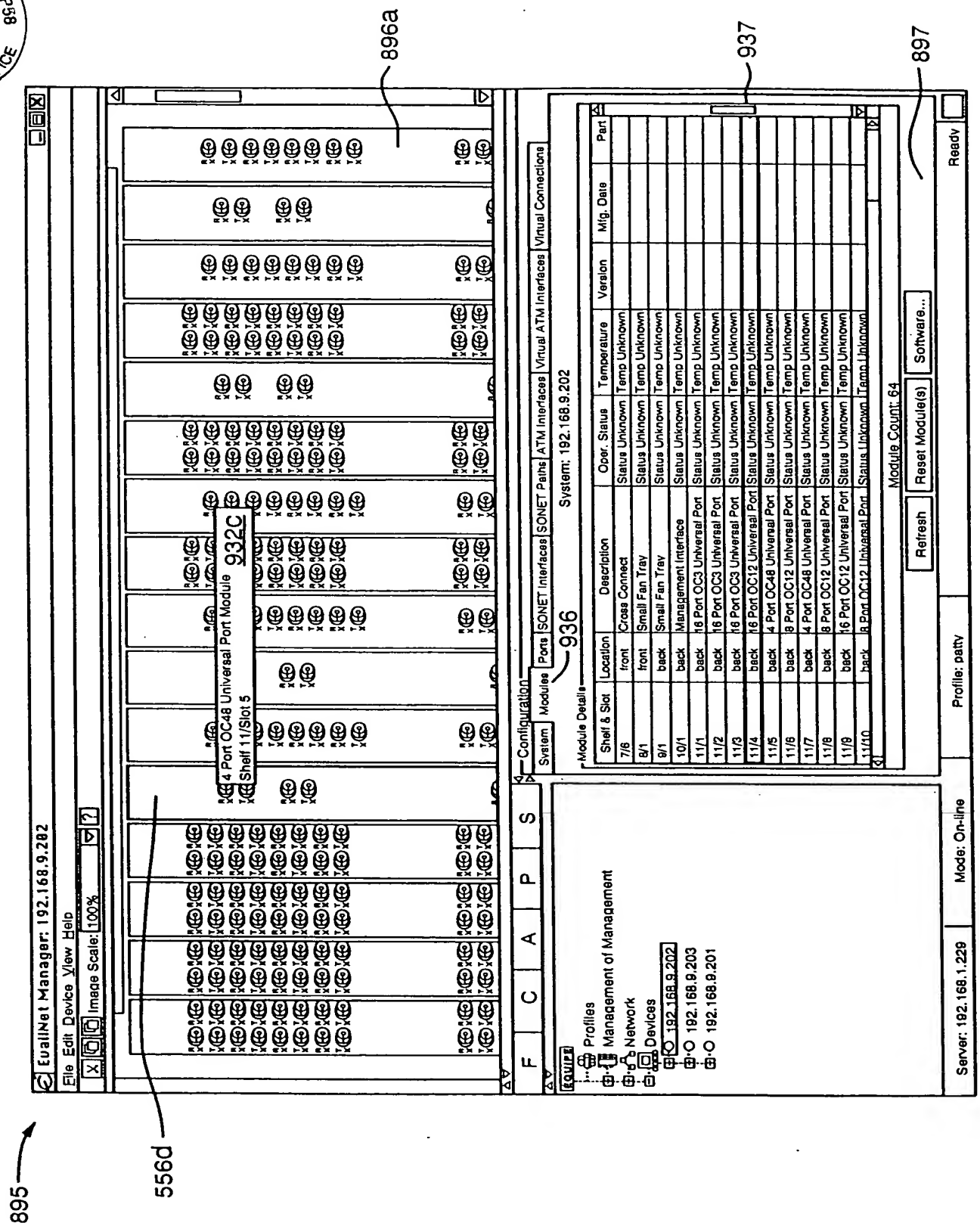


FIG. 4T

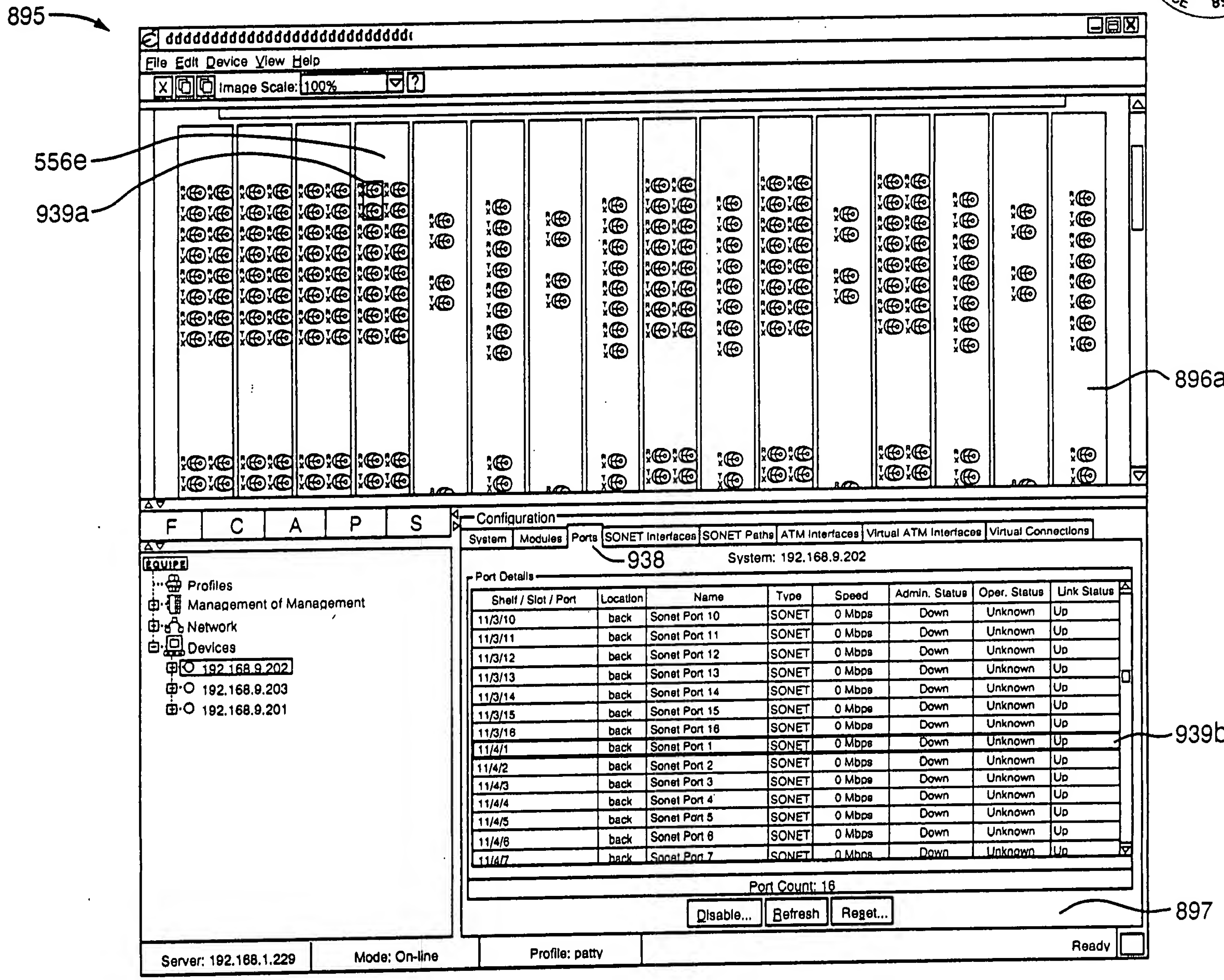


FIG. 4U

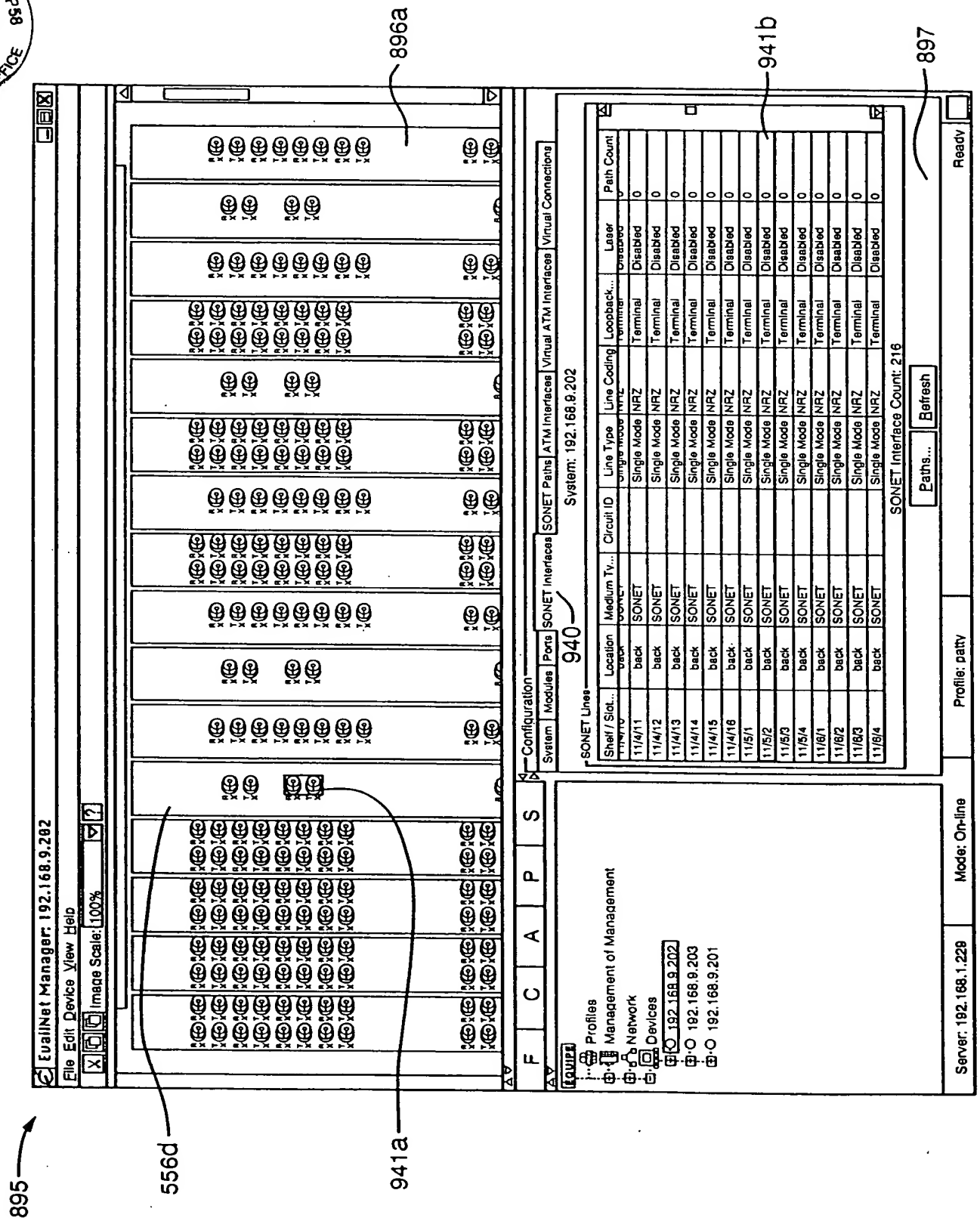


FIG. 4V

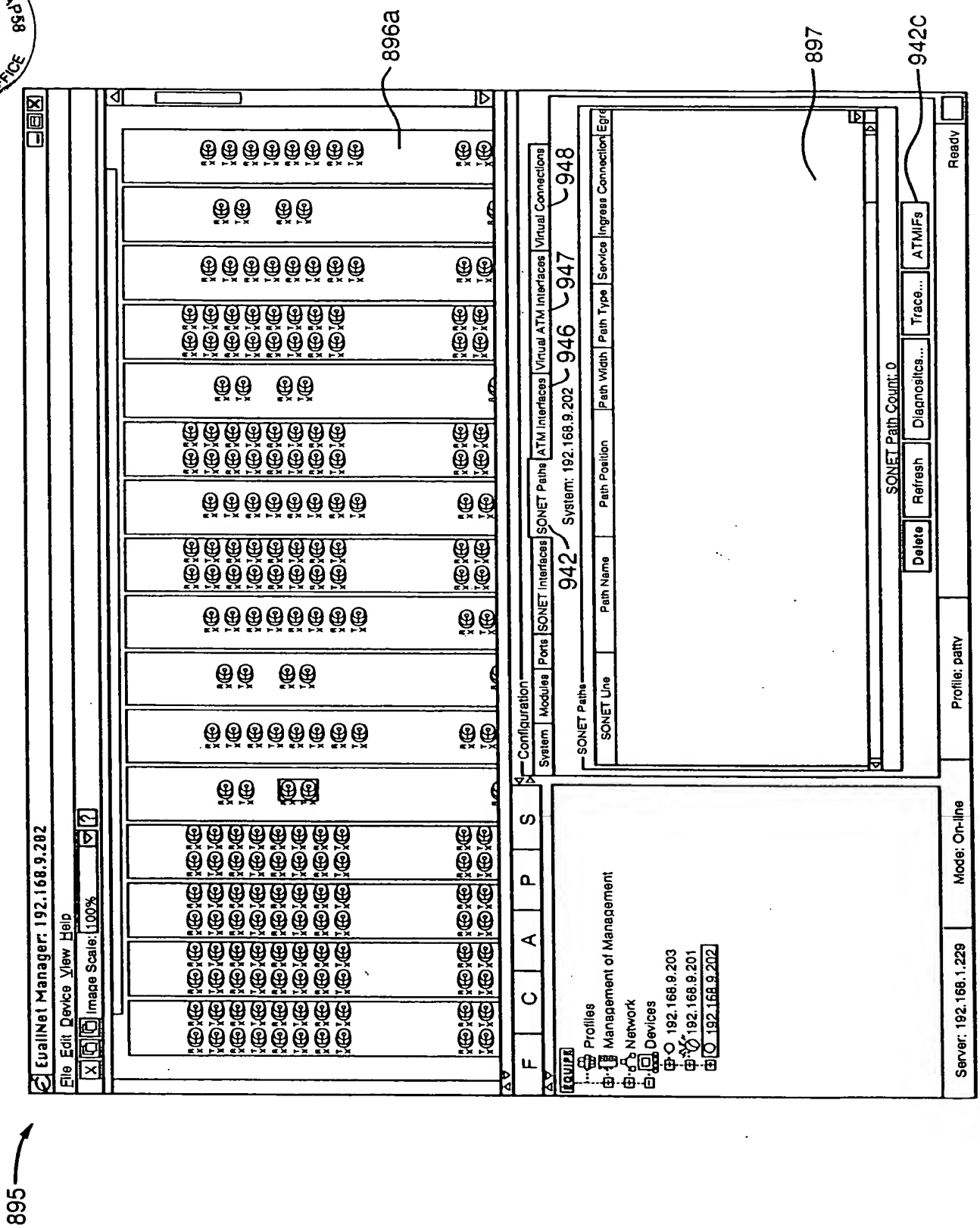


FIG. 4W

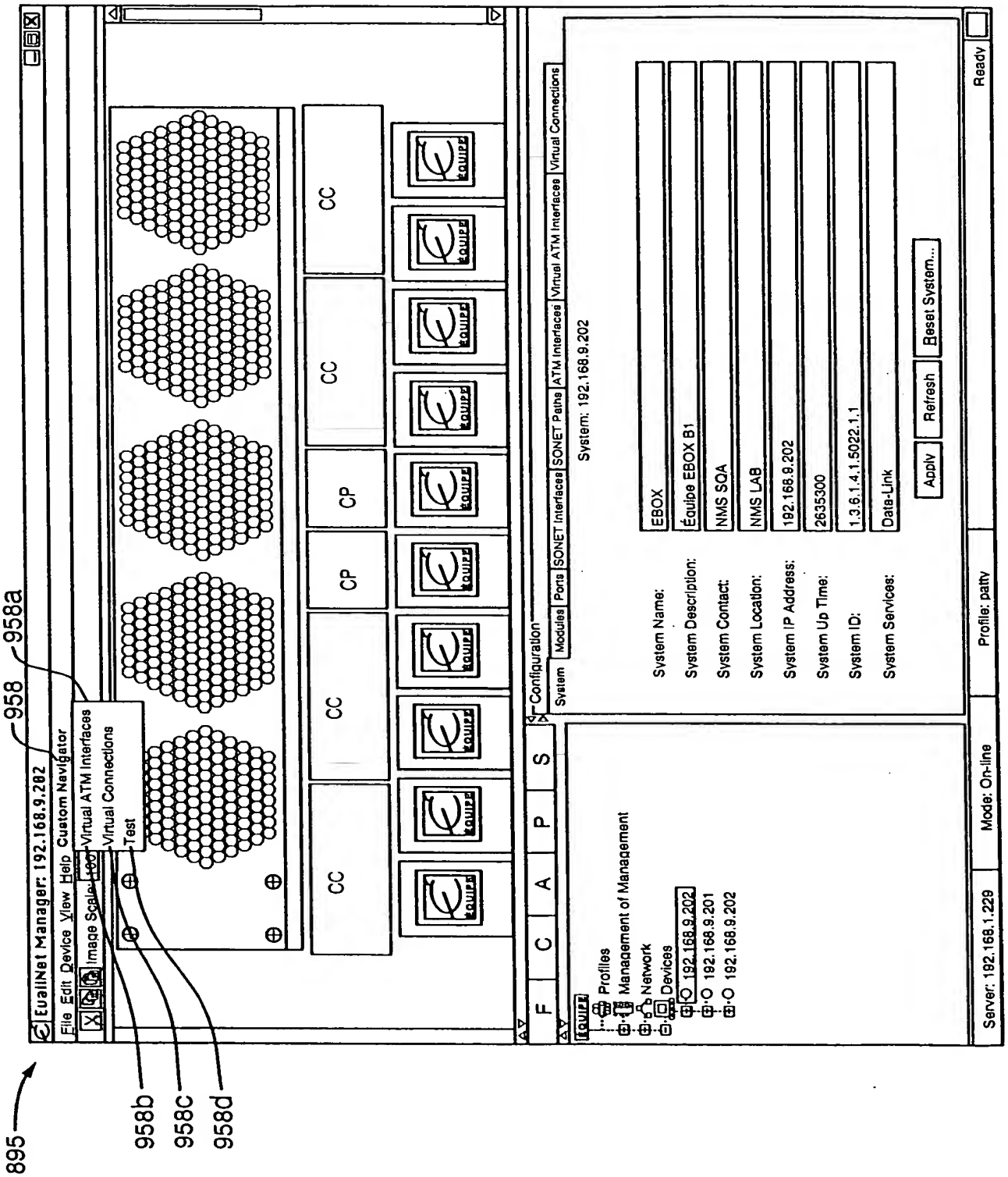


FIG. 4X

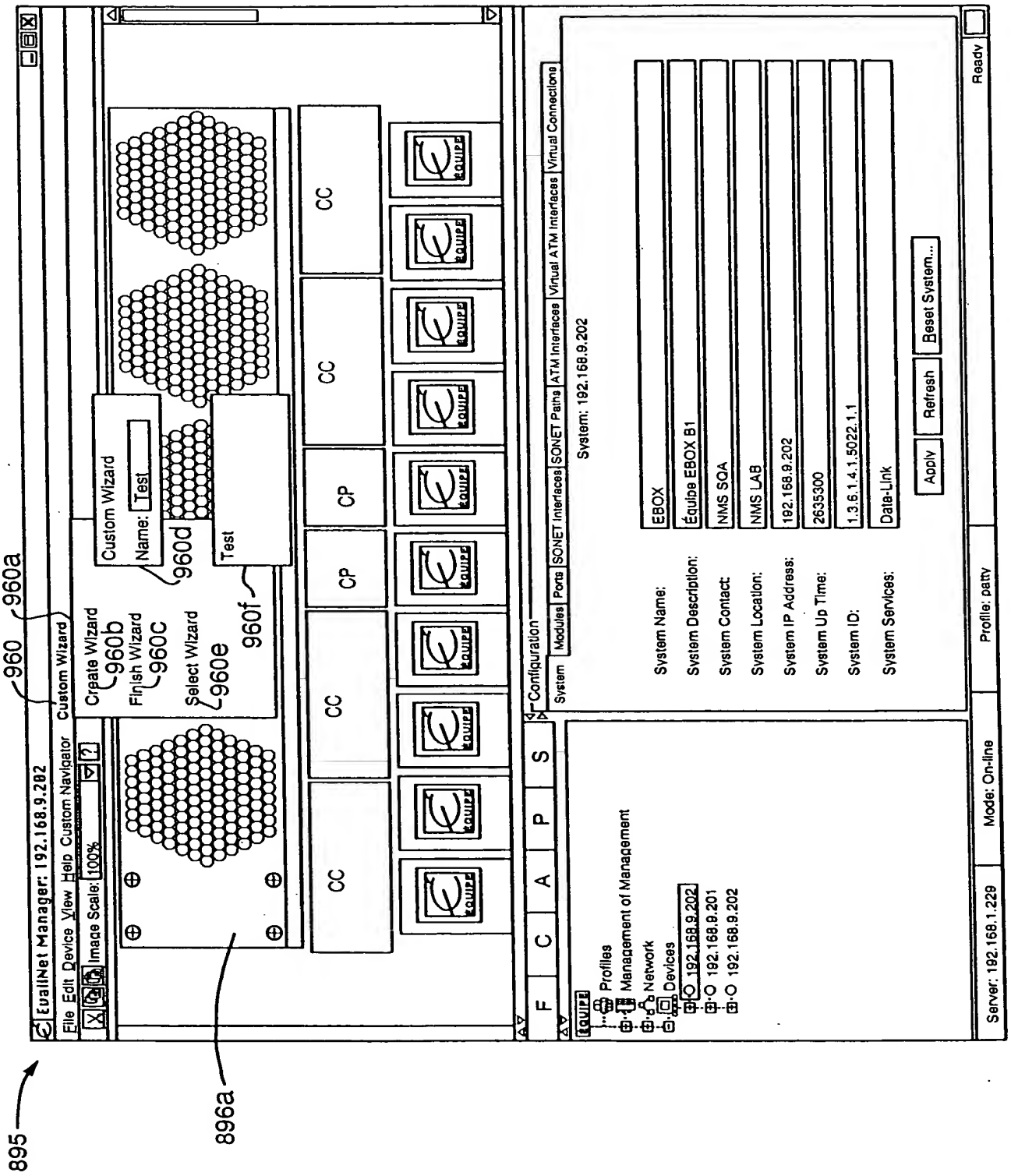


FIG. 4Y

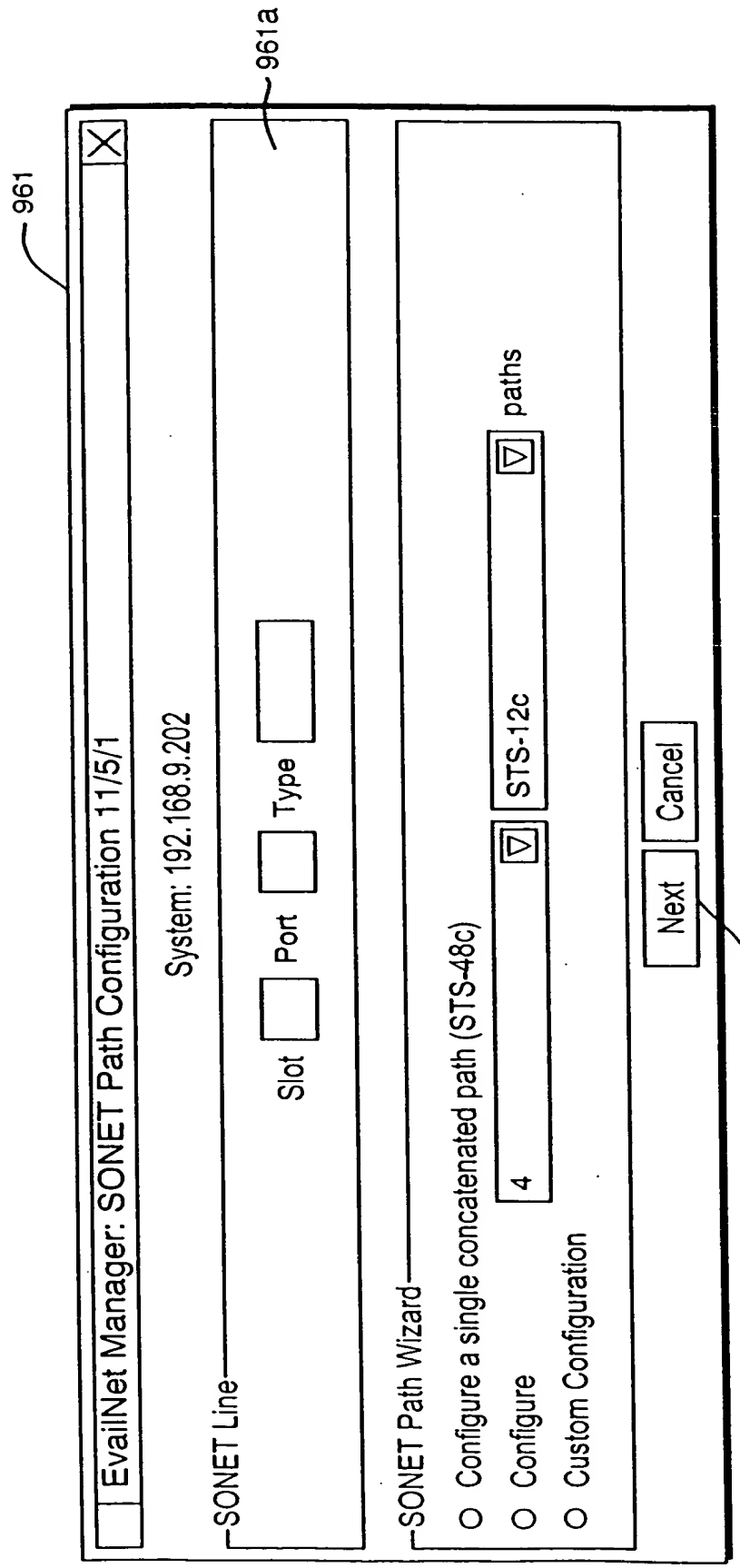


FIG. 4Z

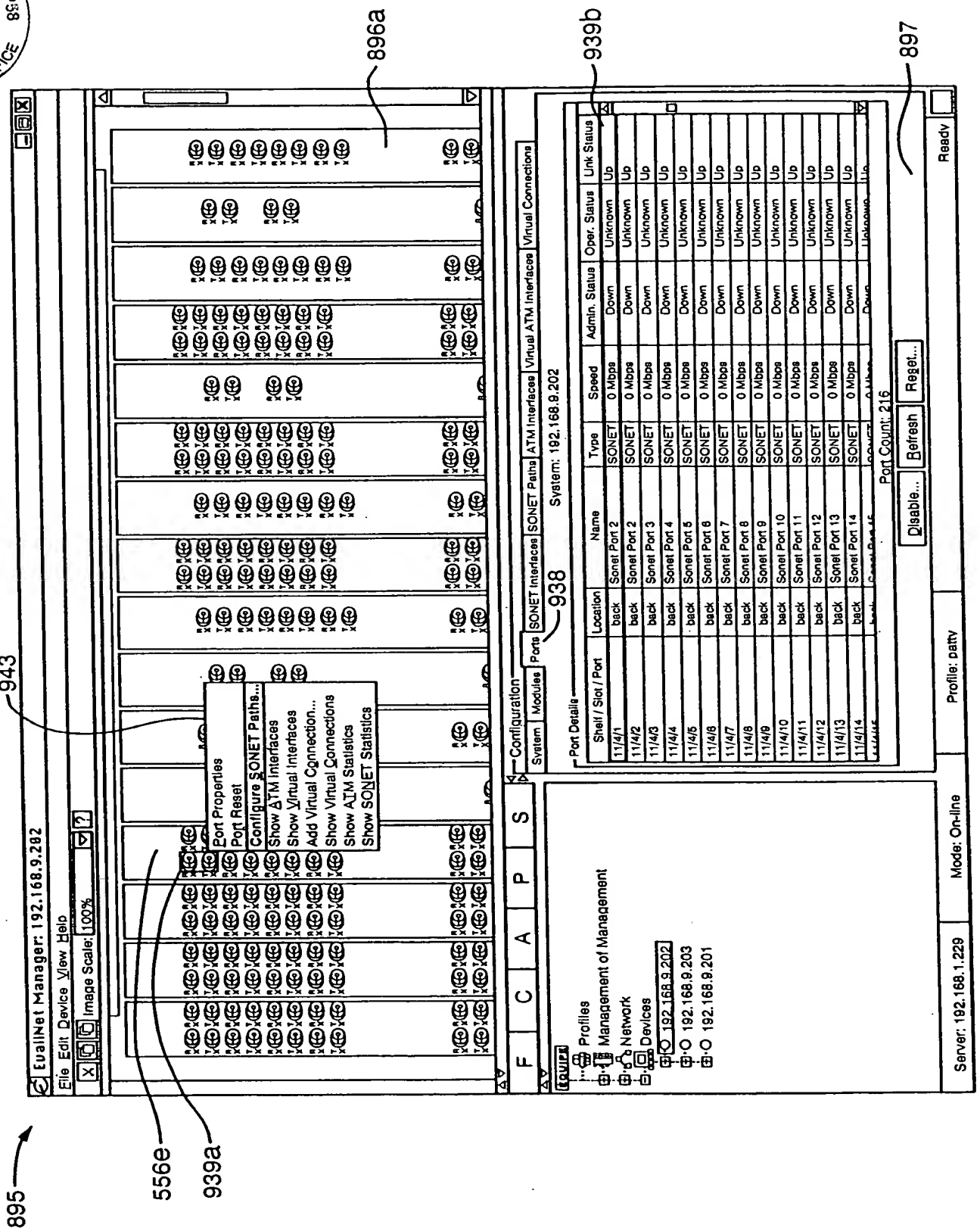


FIG. 5A

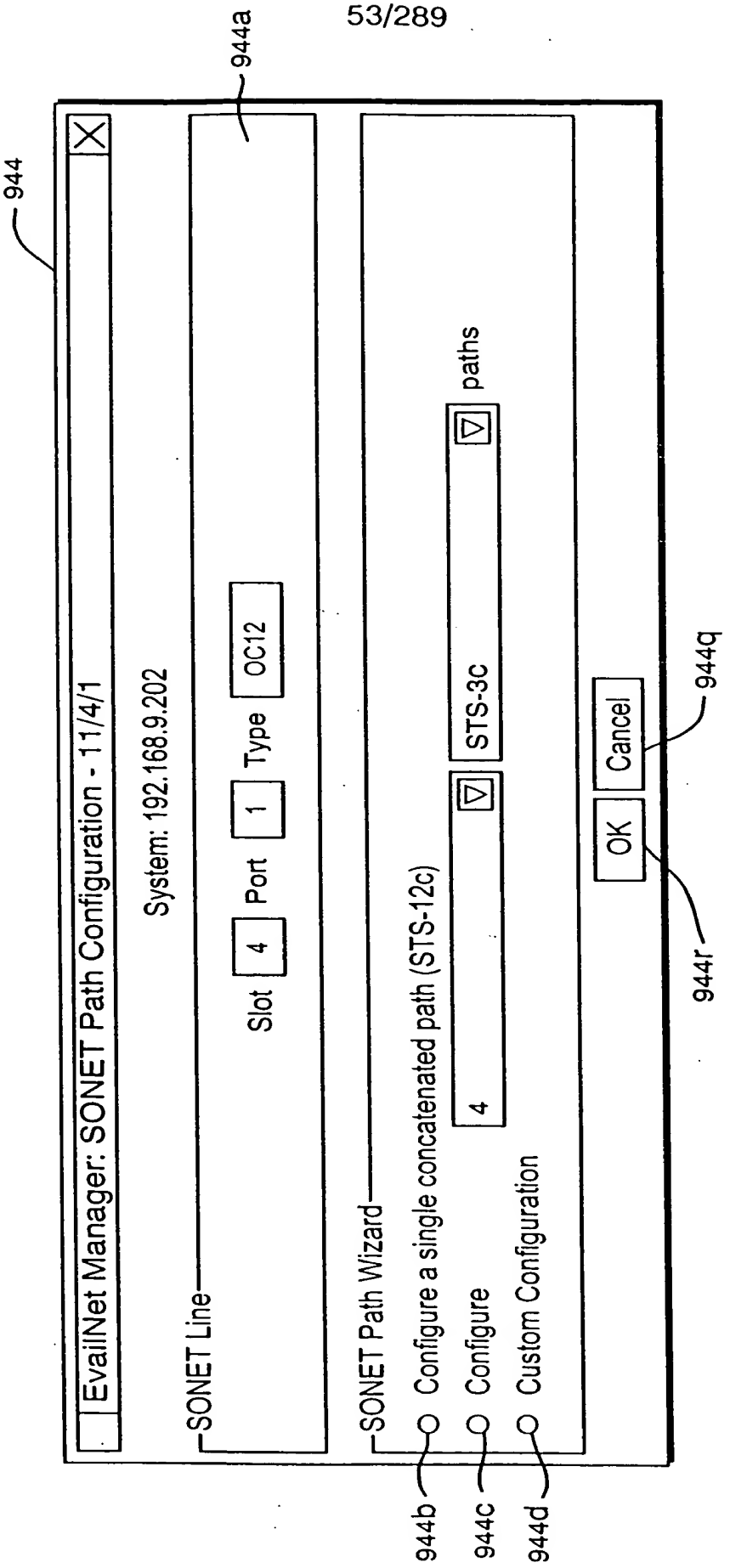


FIG. 5B

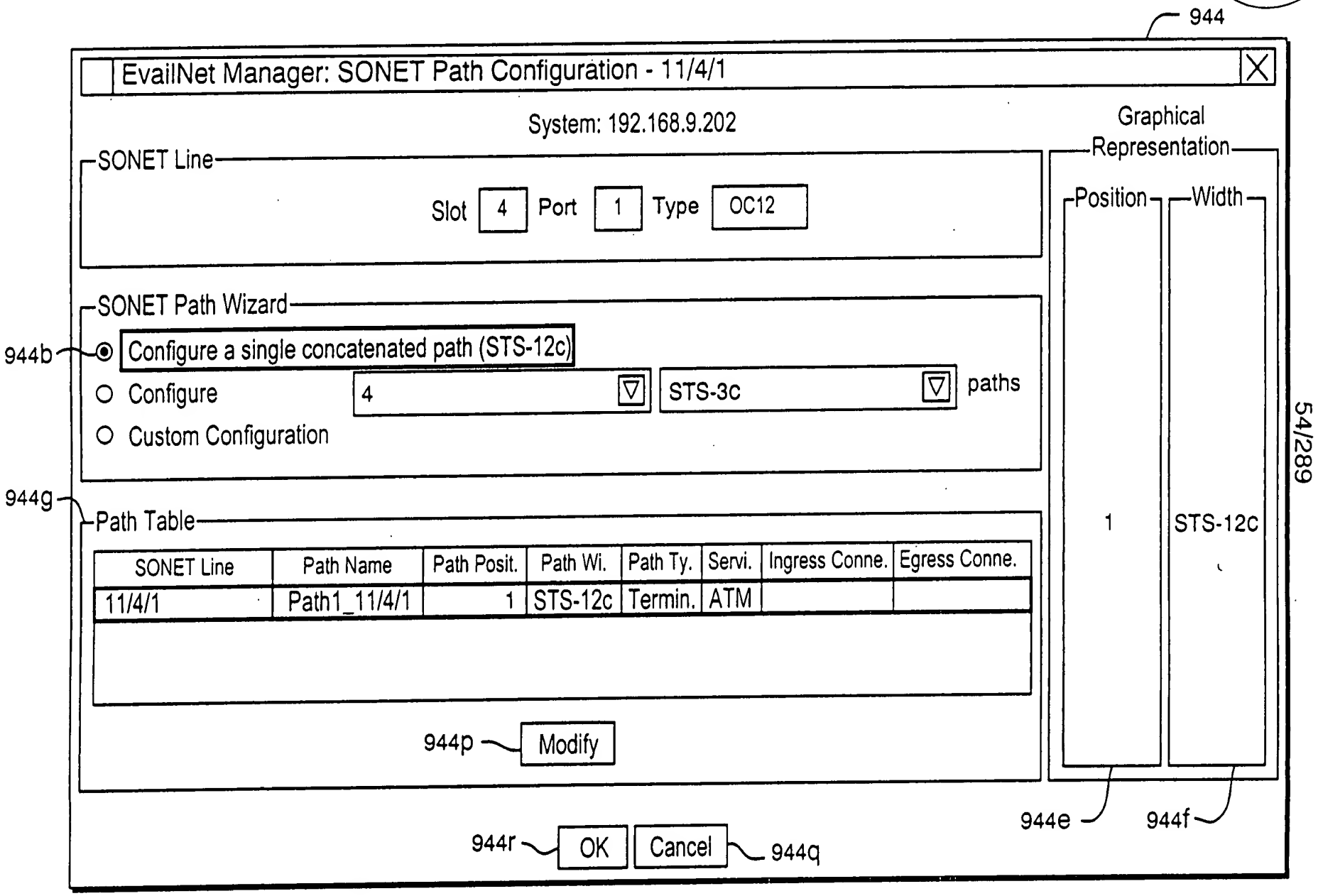


FIG. 5C

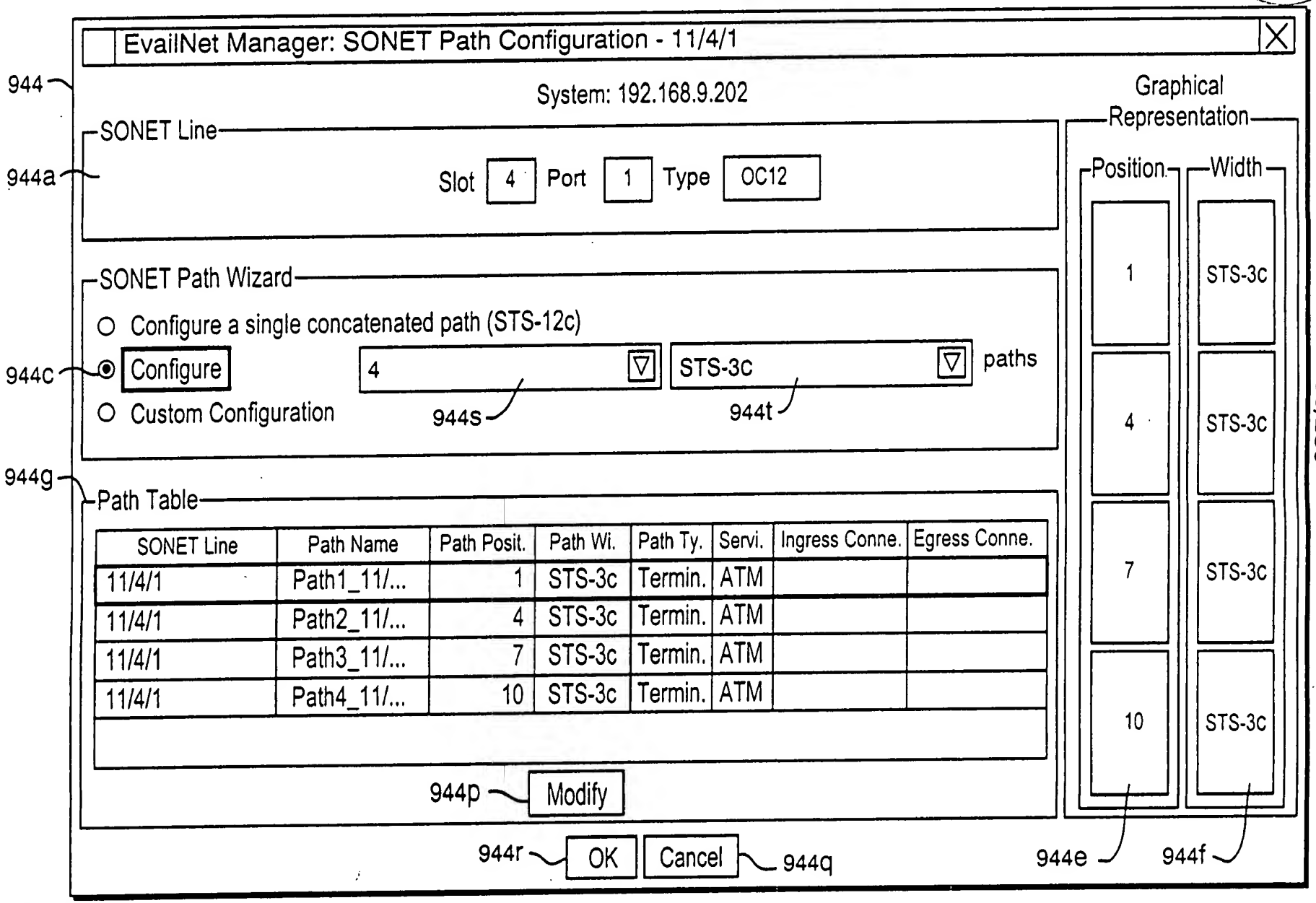


FIG. 5D

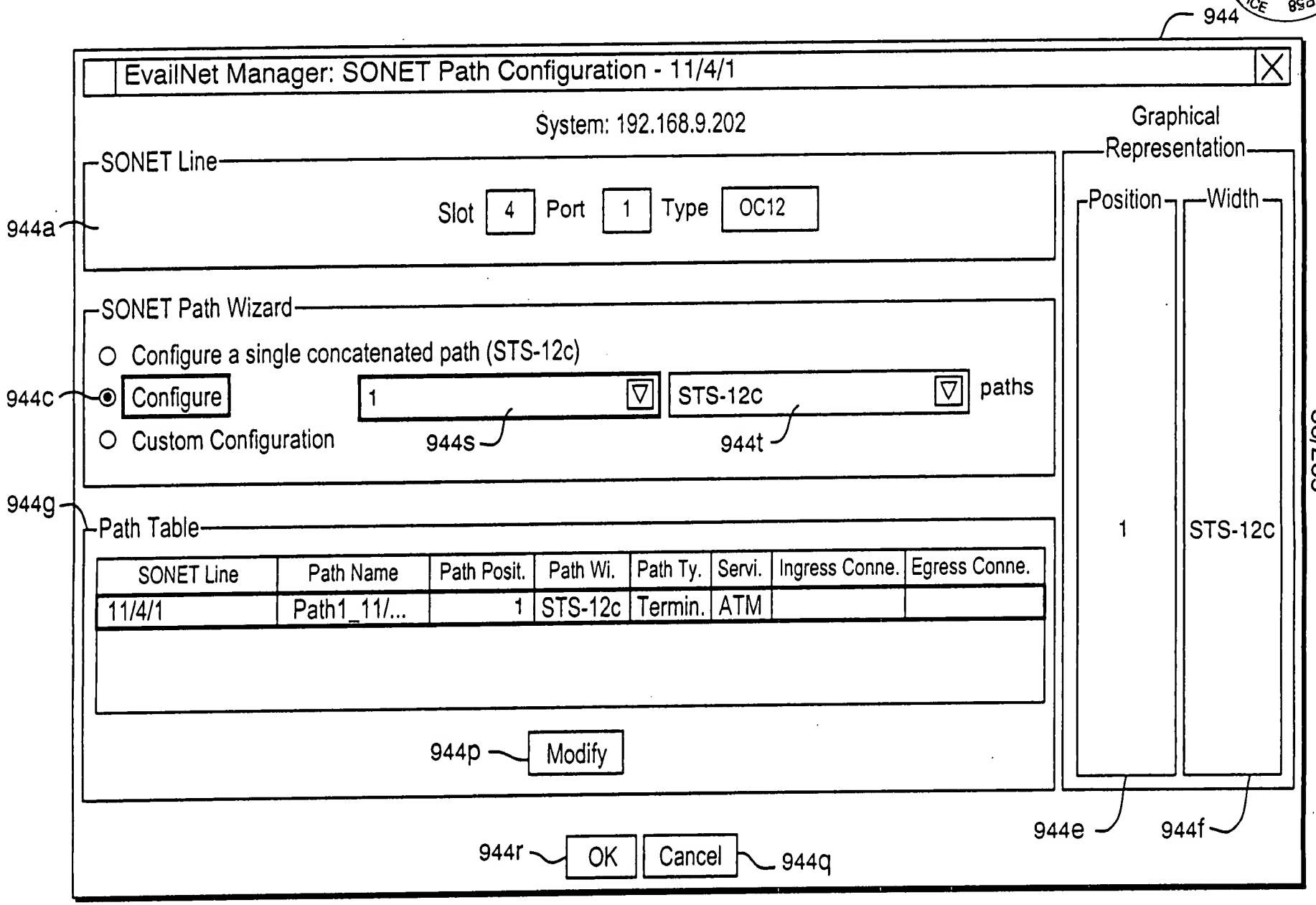


FIG. 5E

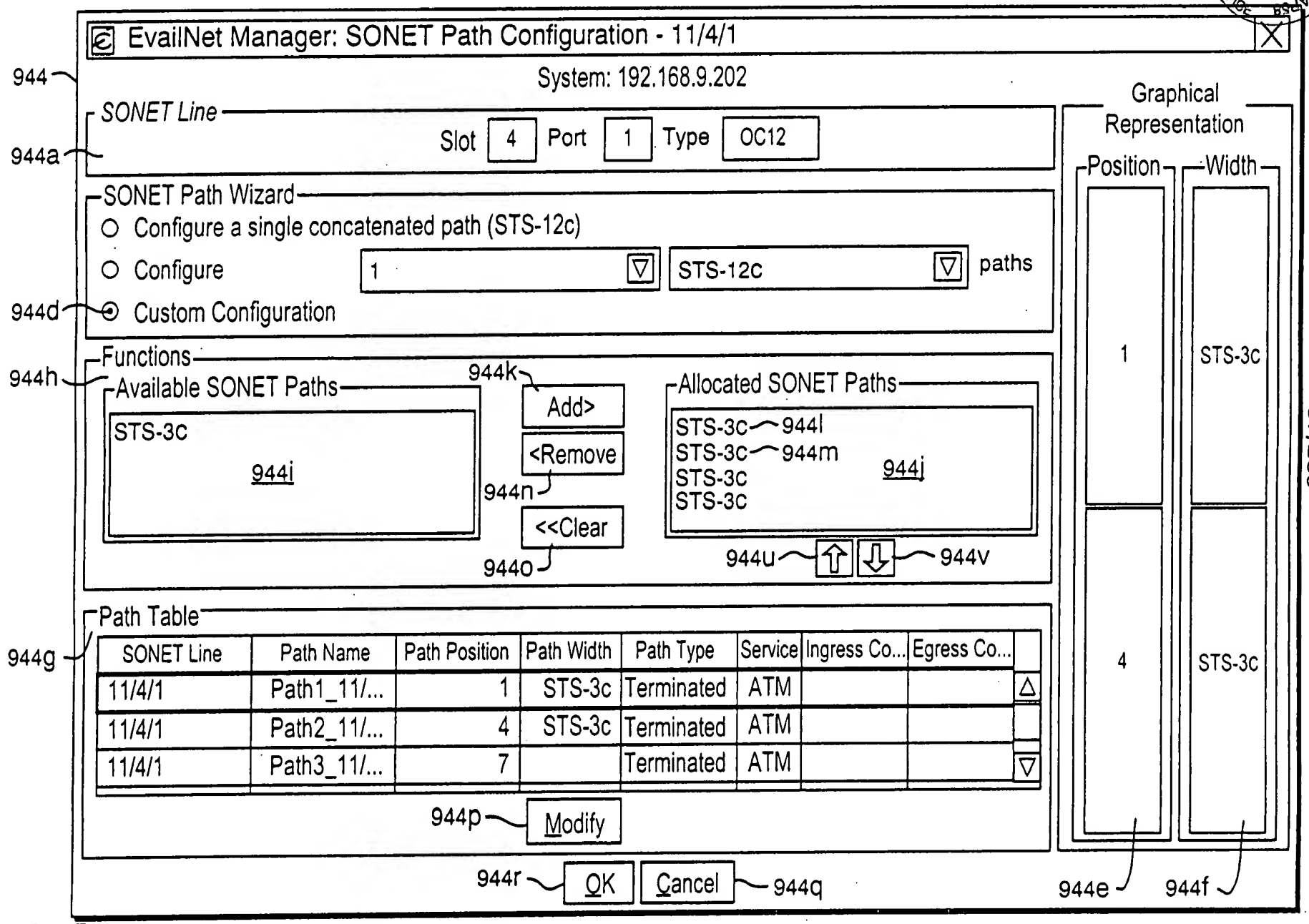


FIG. 5F

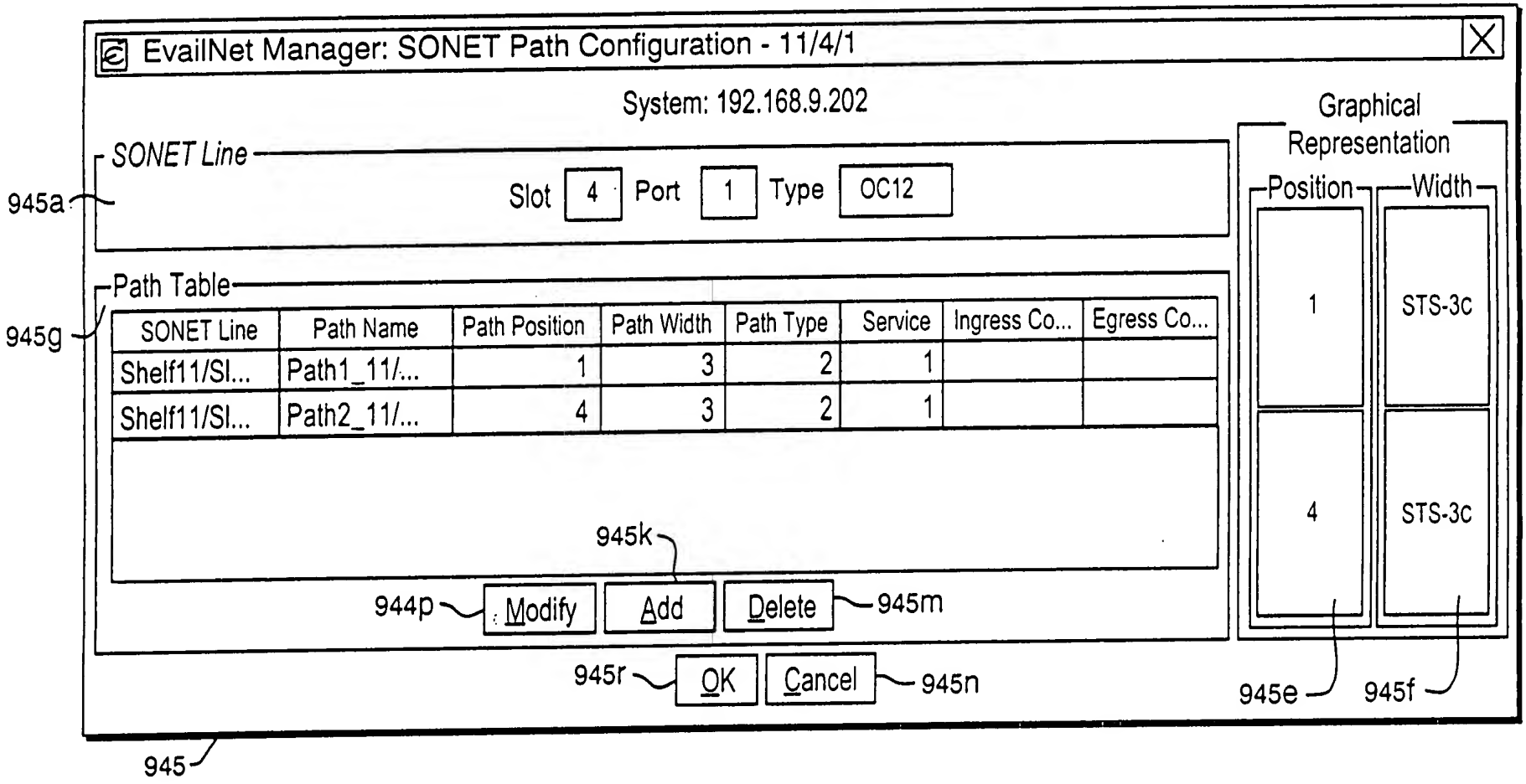


FIG. 5G

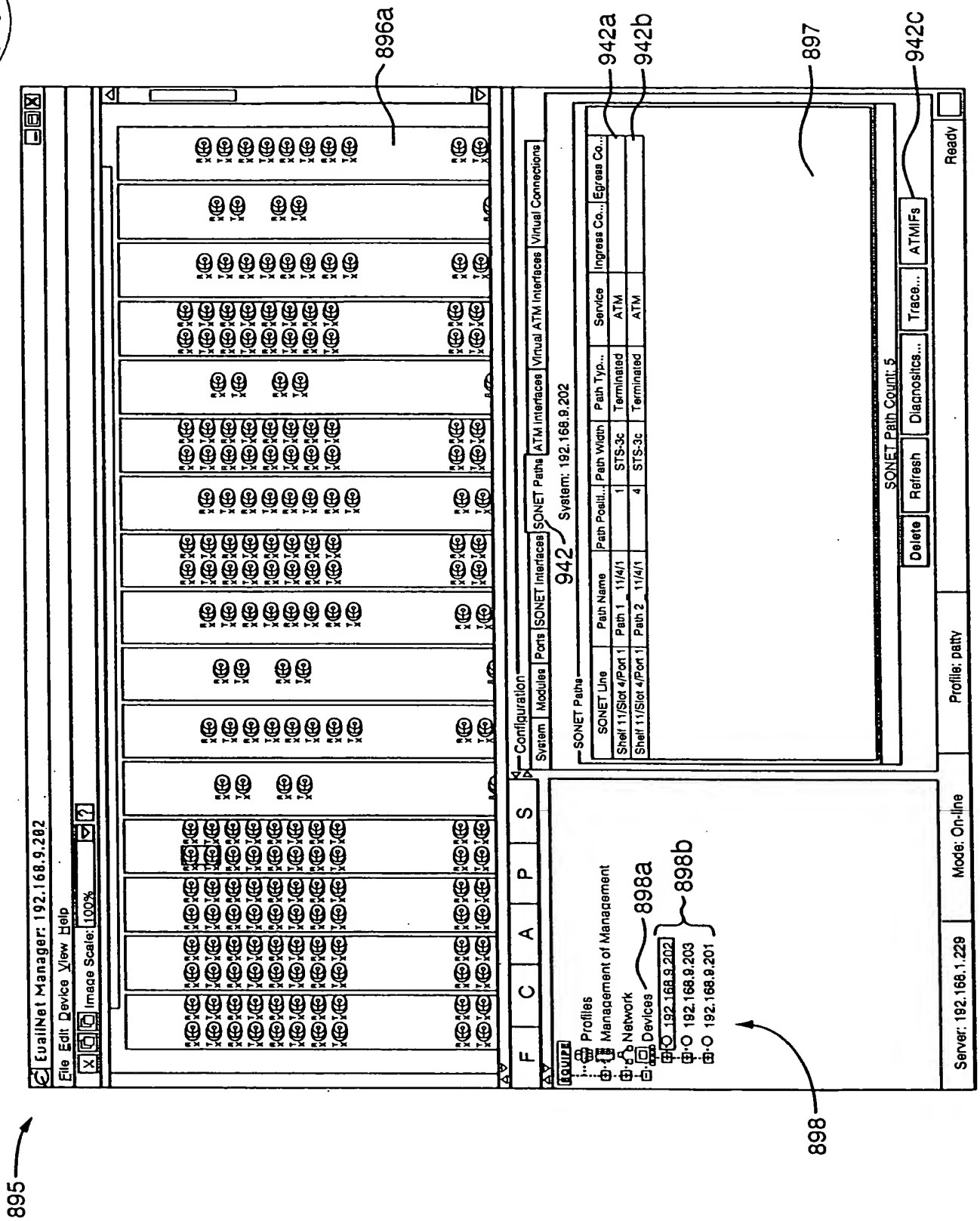


FIG. 5H

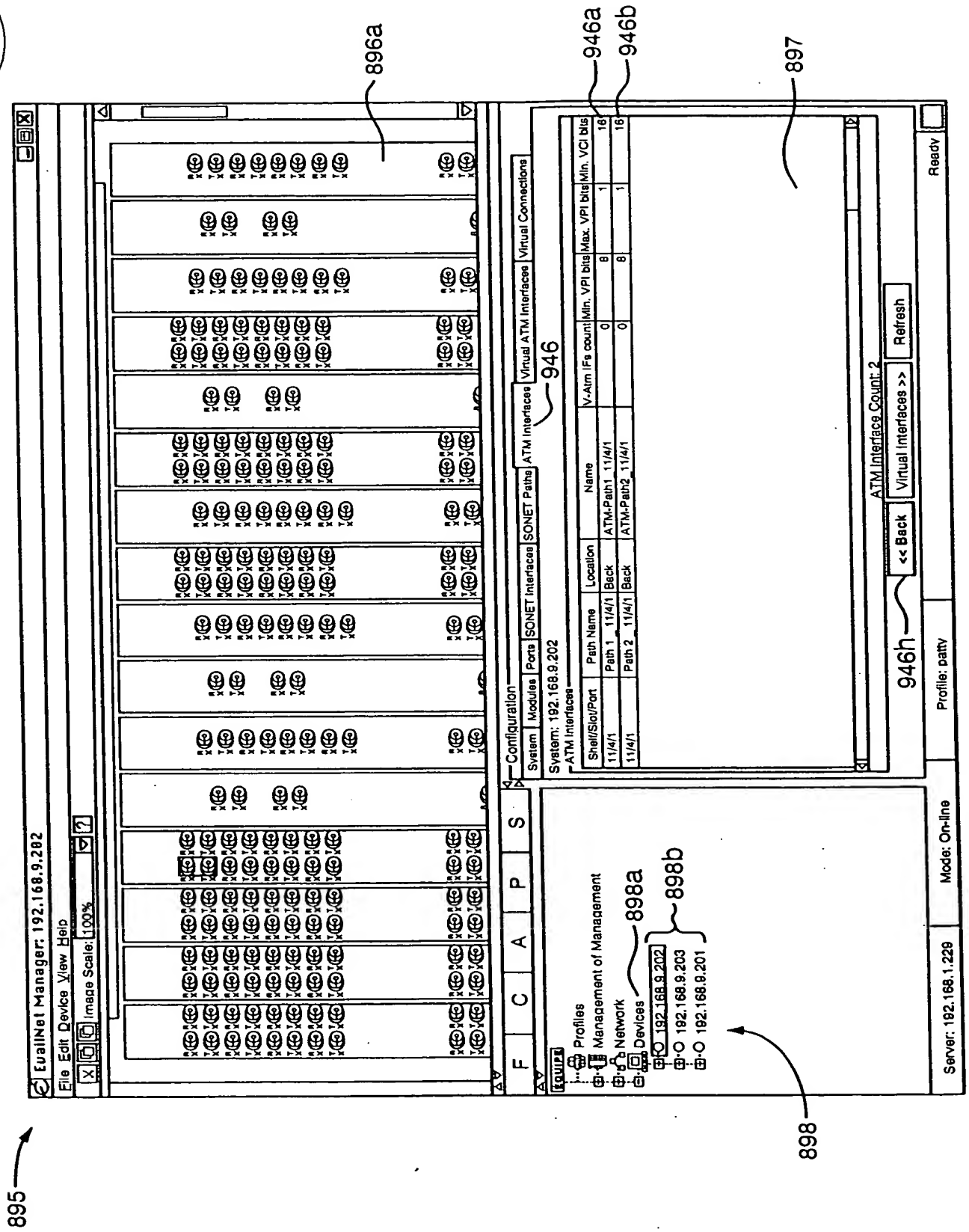


FIG. 5I

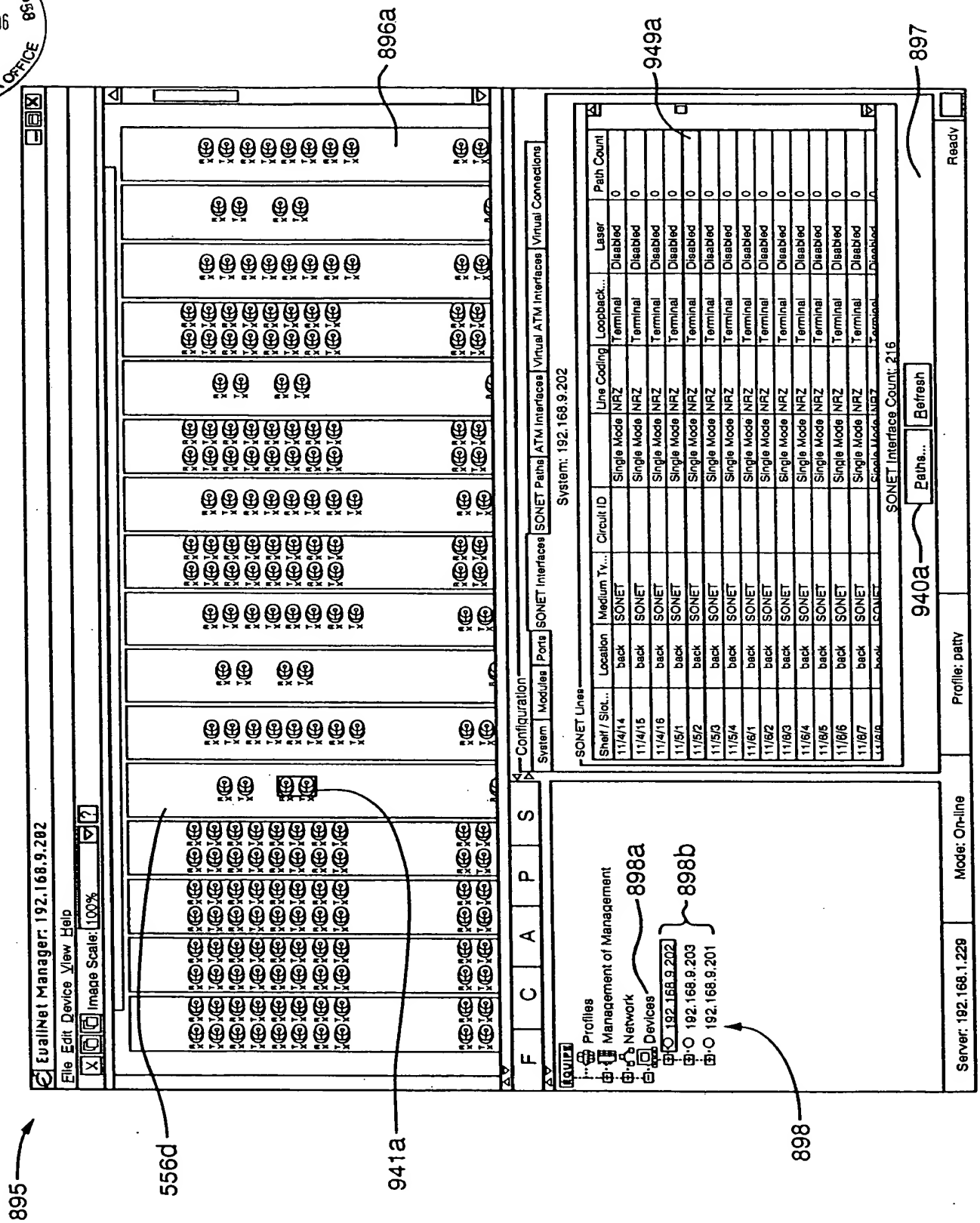


FIG. 5J

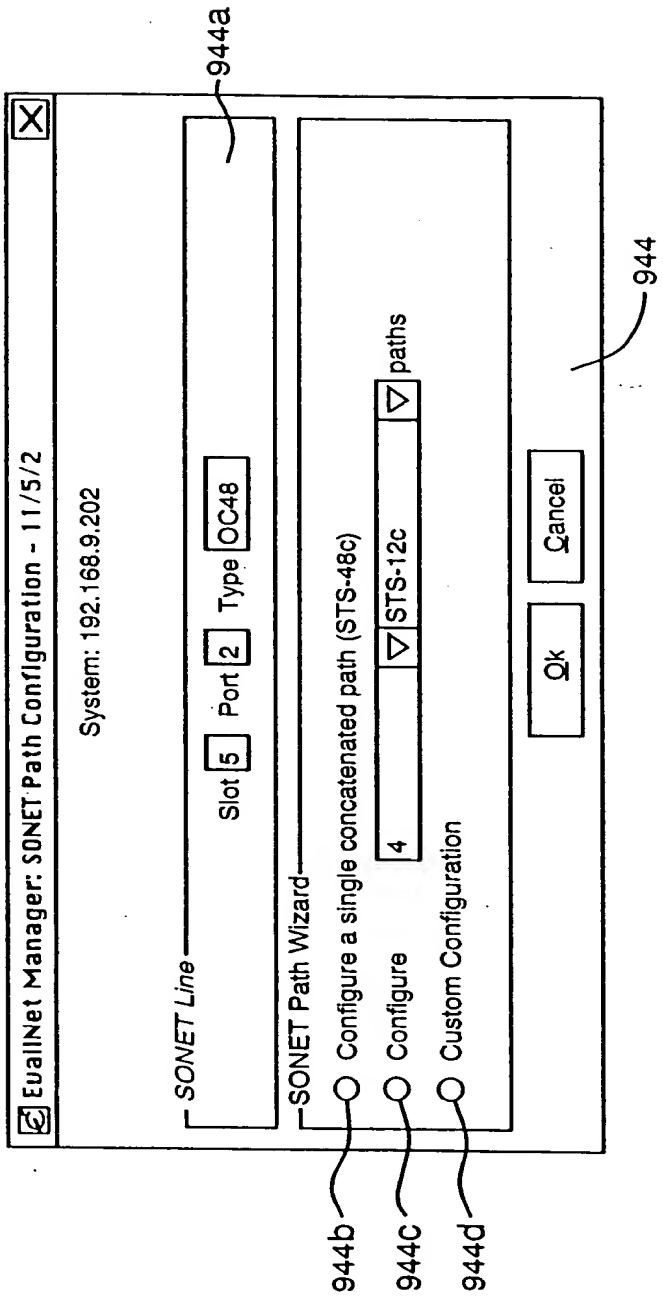


FIG. 5K

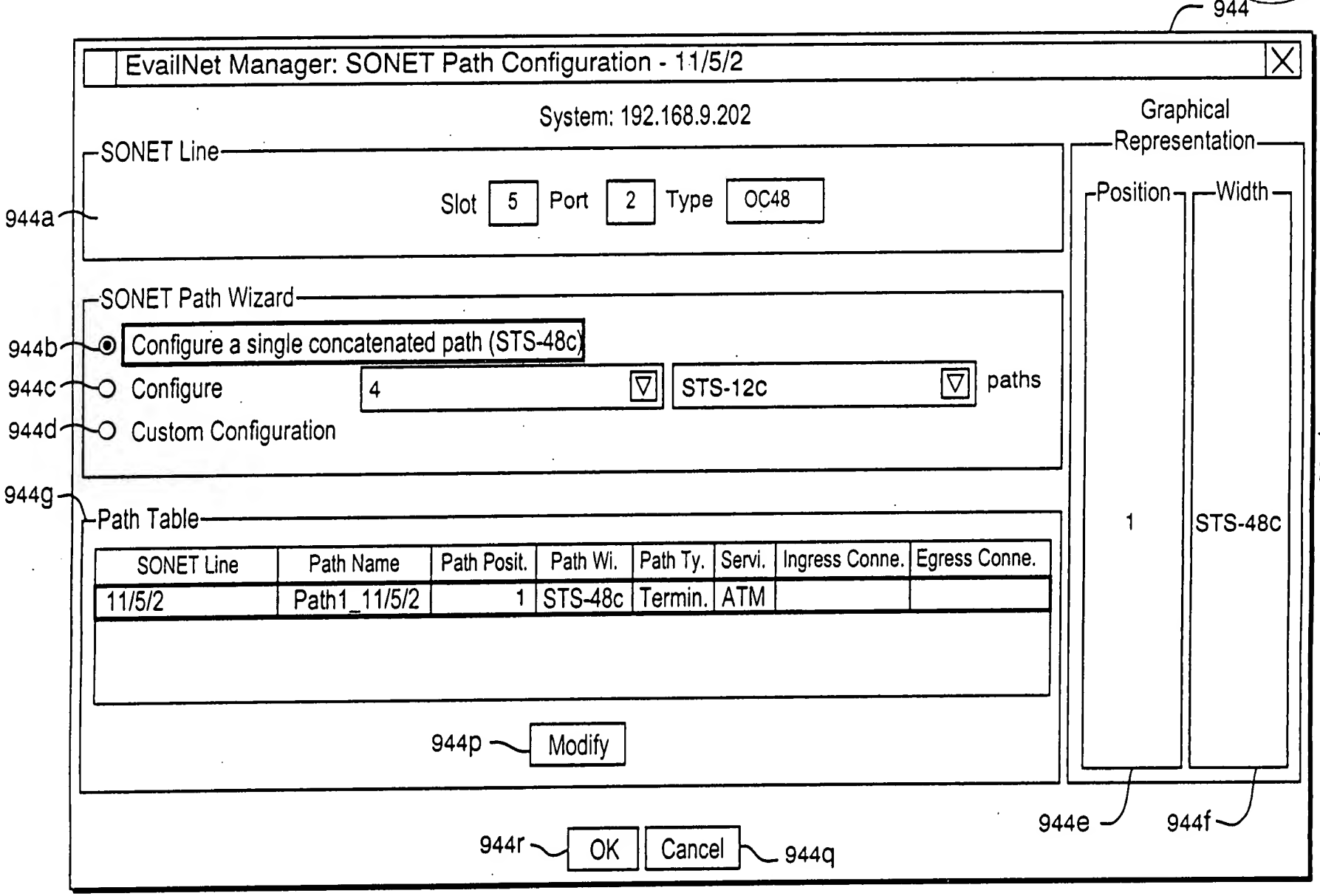


FIG. 5L

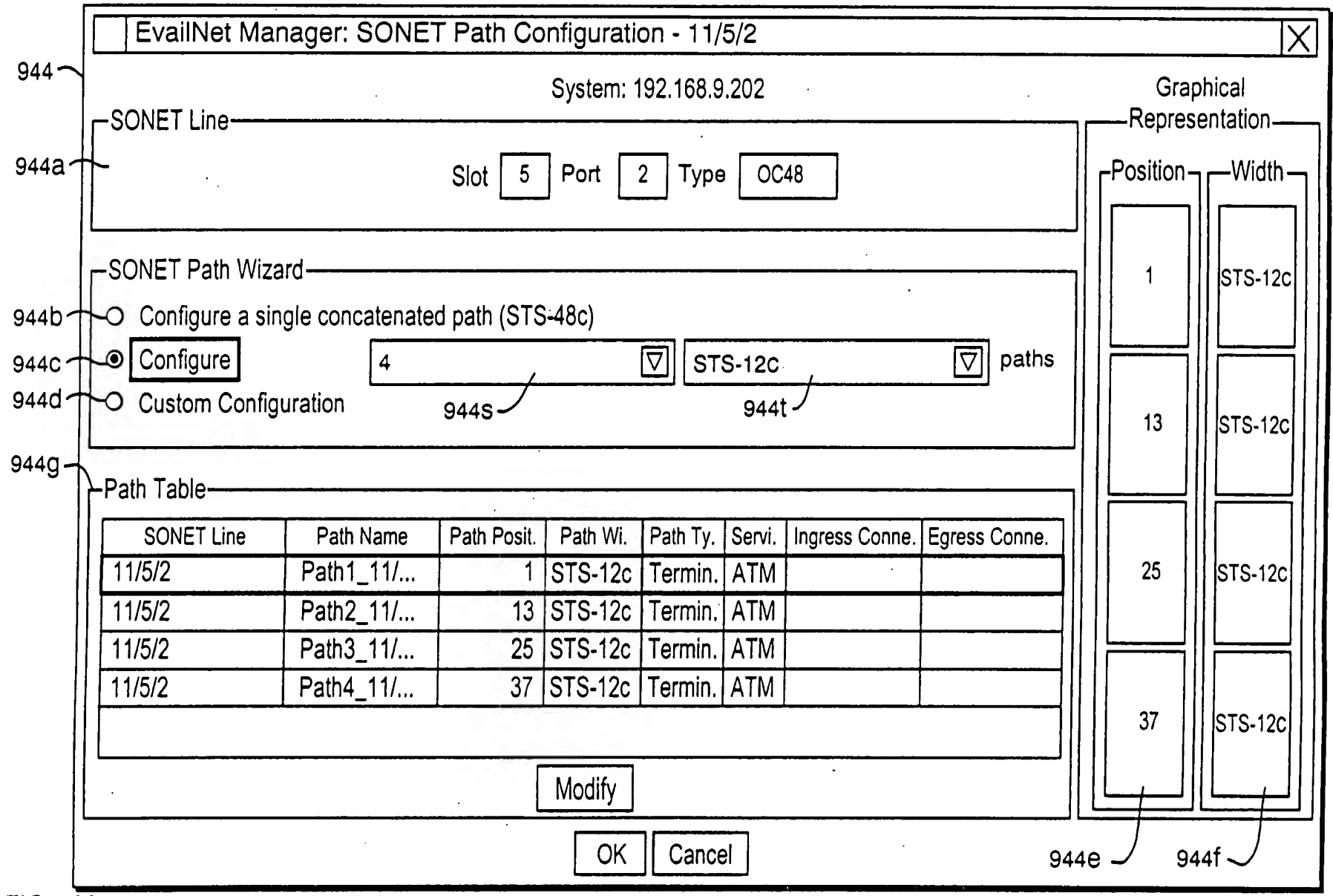


FIG. 5M

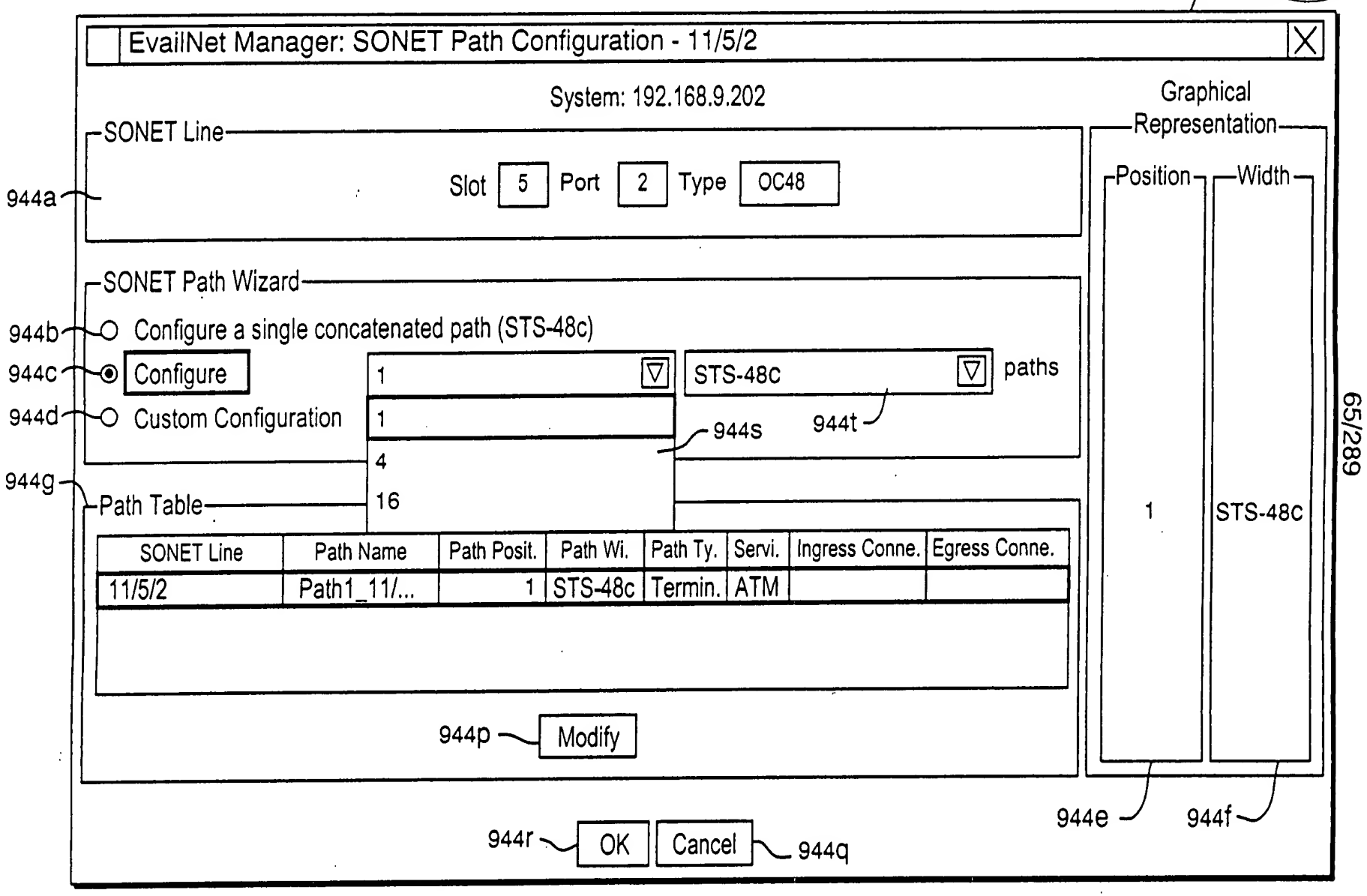


FIG. 5N

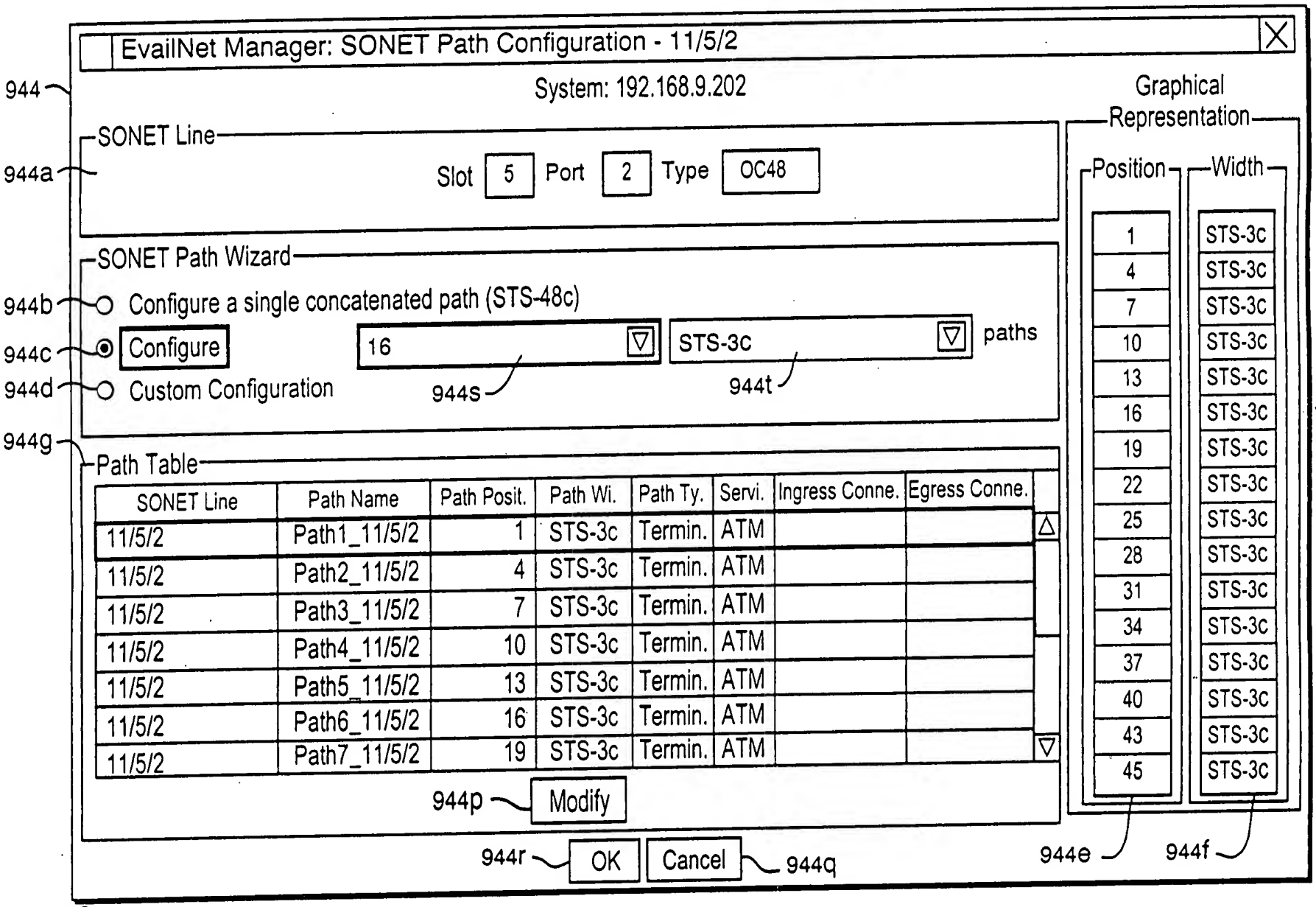


FIG. 5O

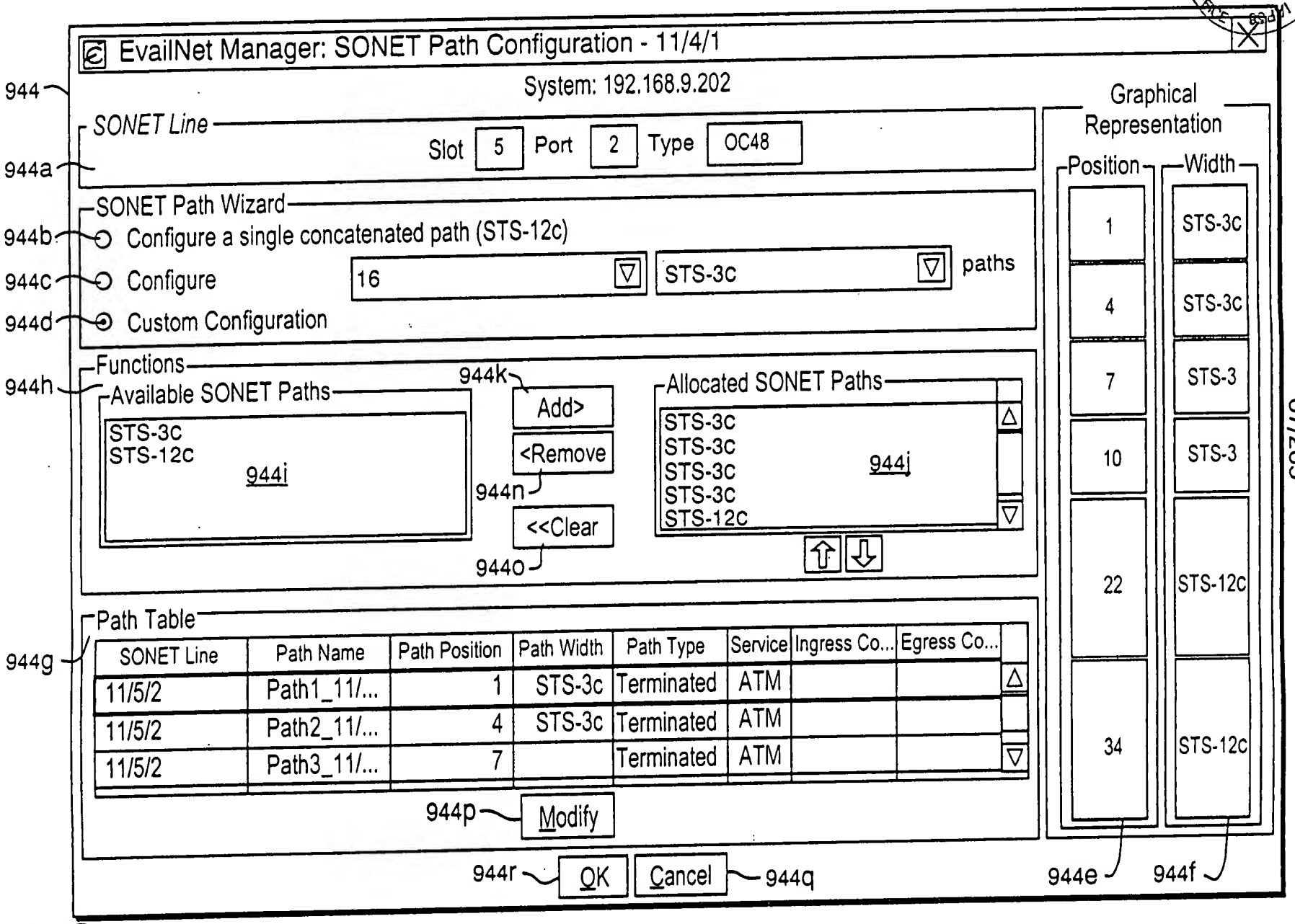


FIG. 5P

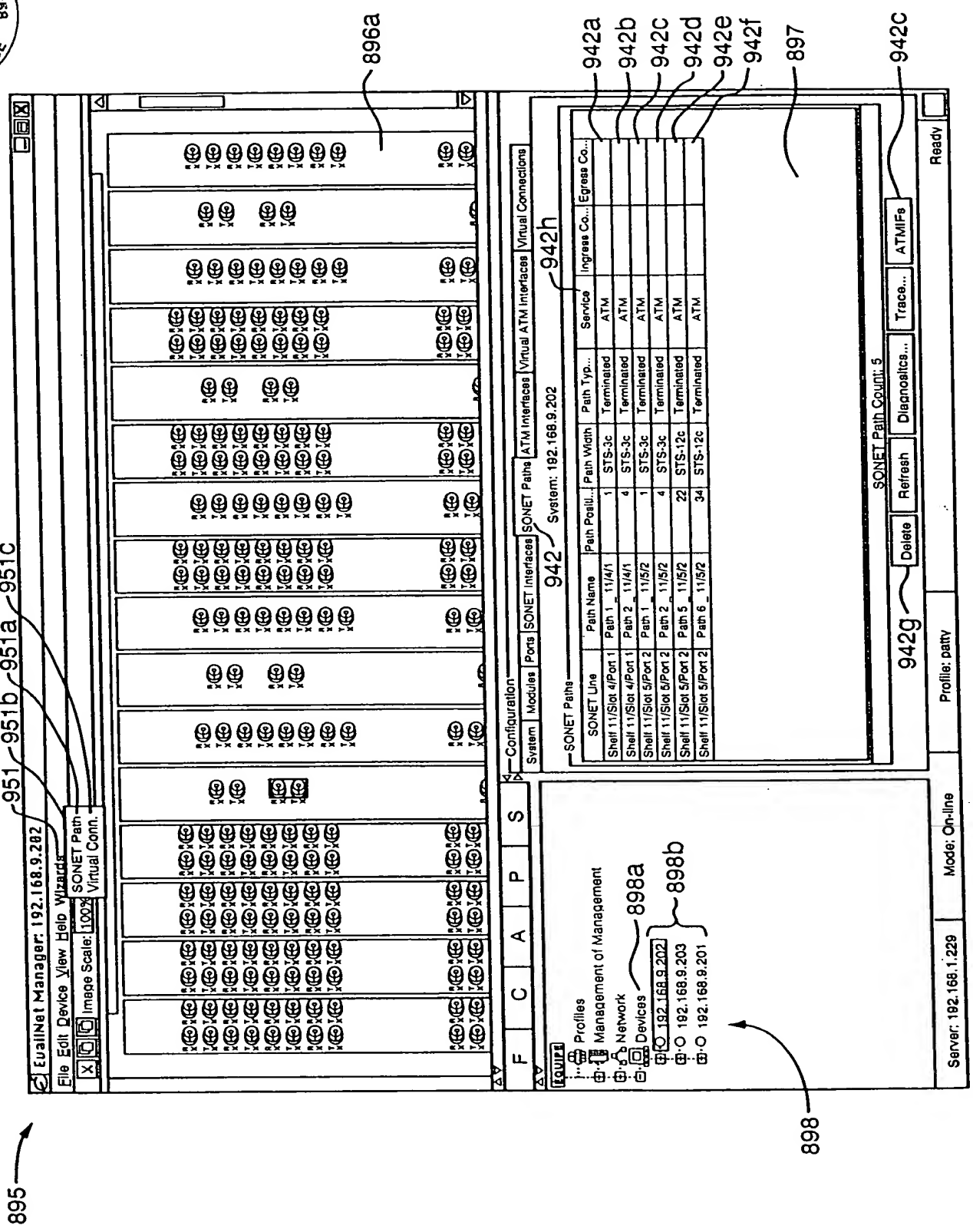


FIG. 5Q

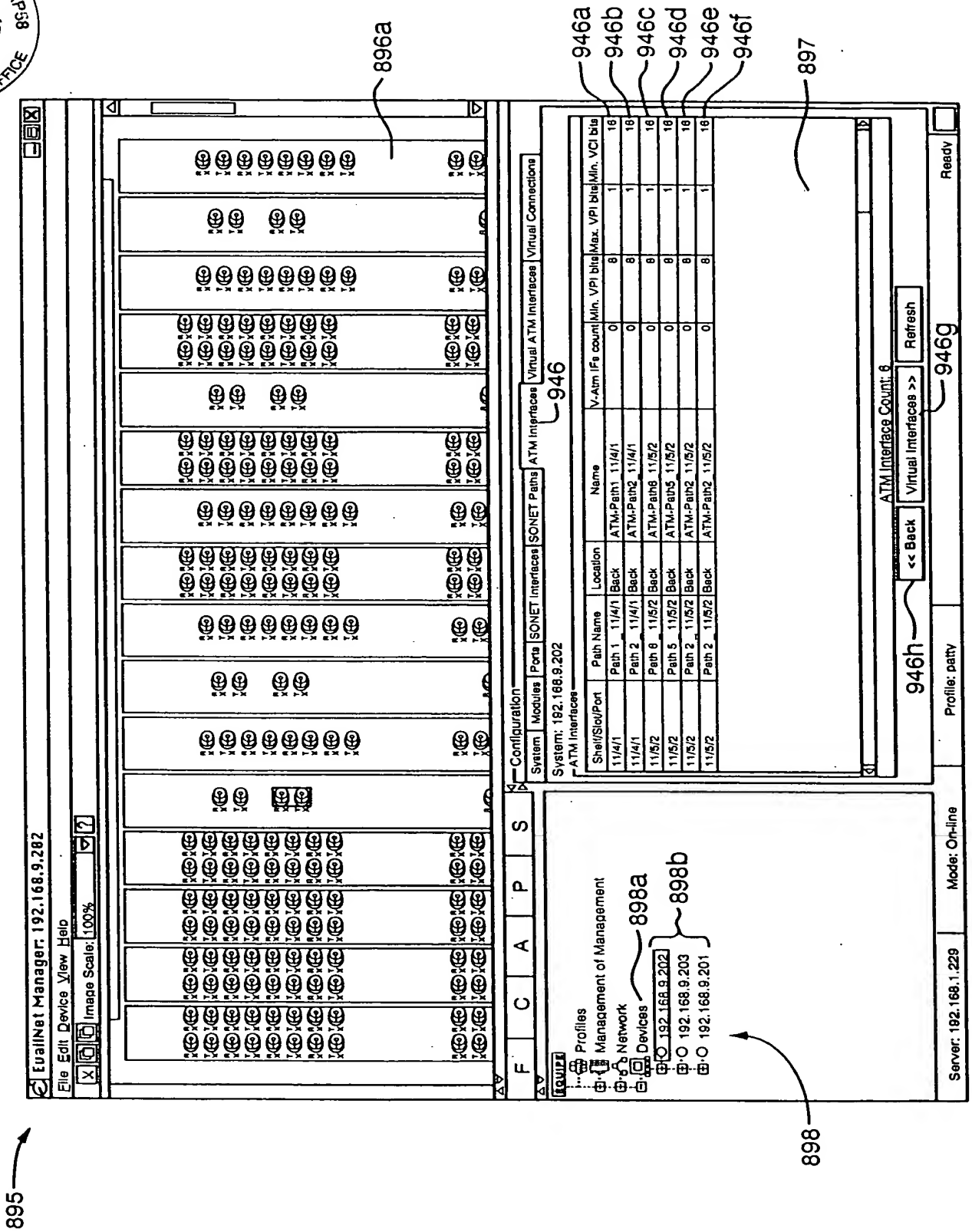


FIG. 5R

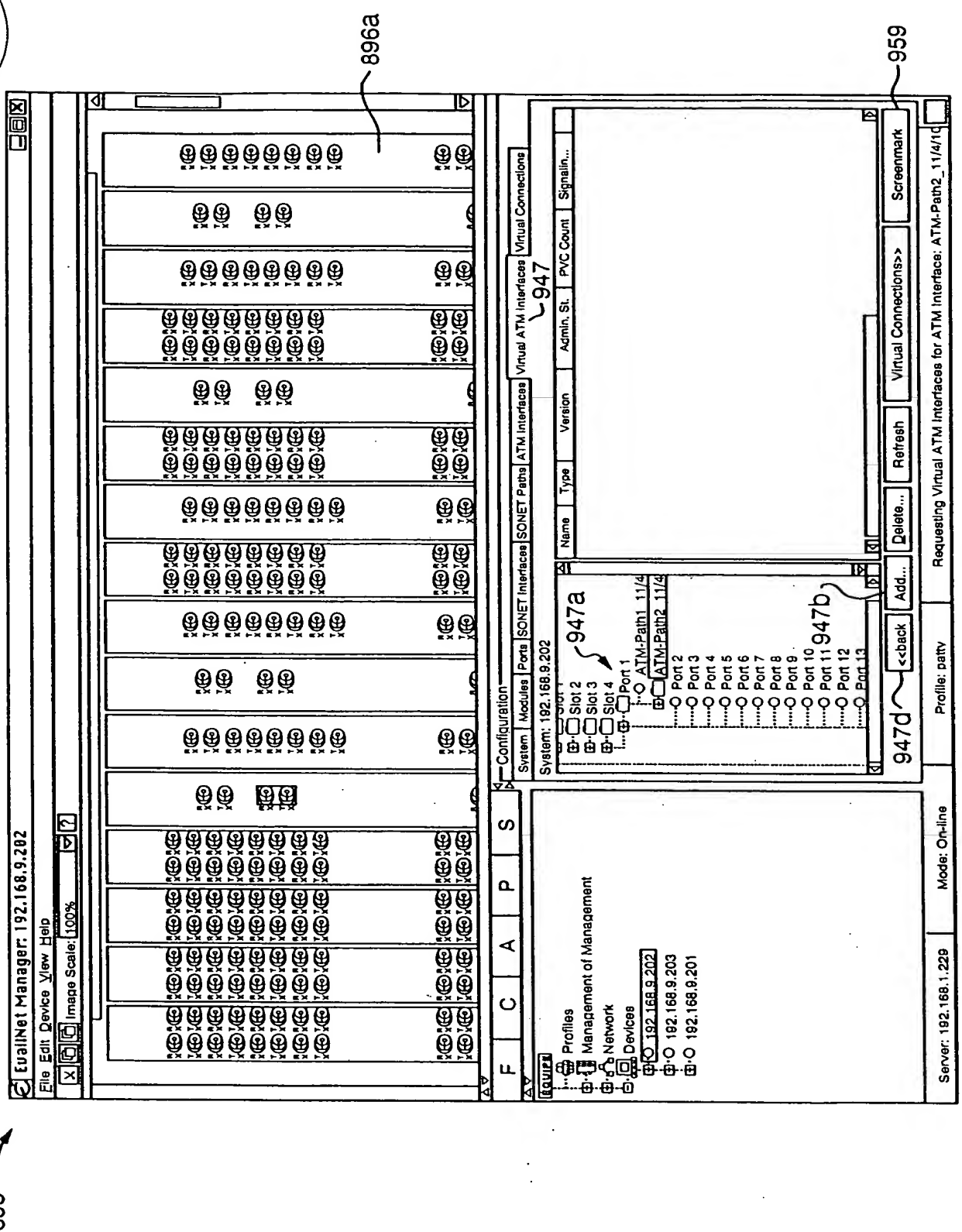


FIG. 5S

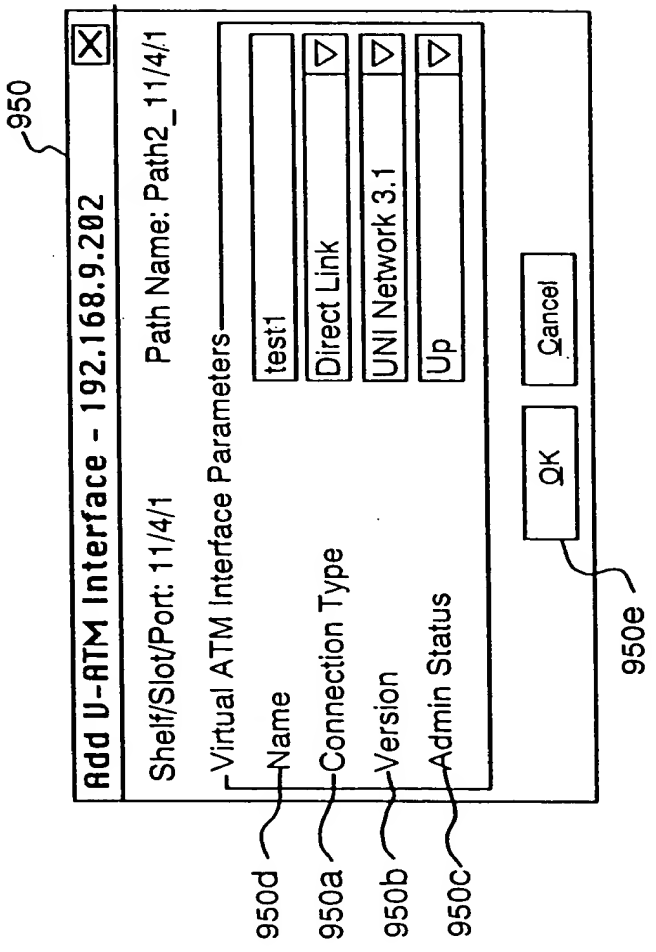


FIG. 5T

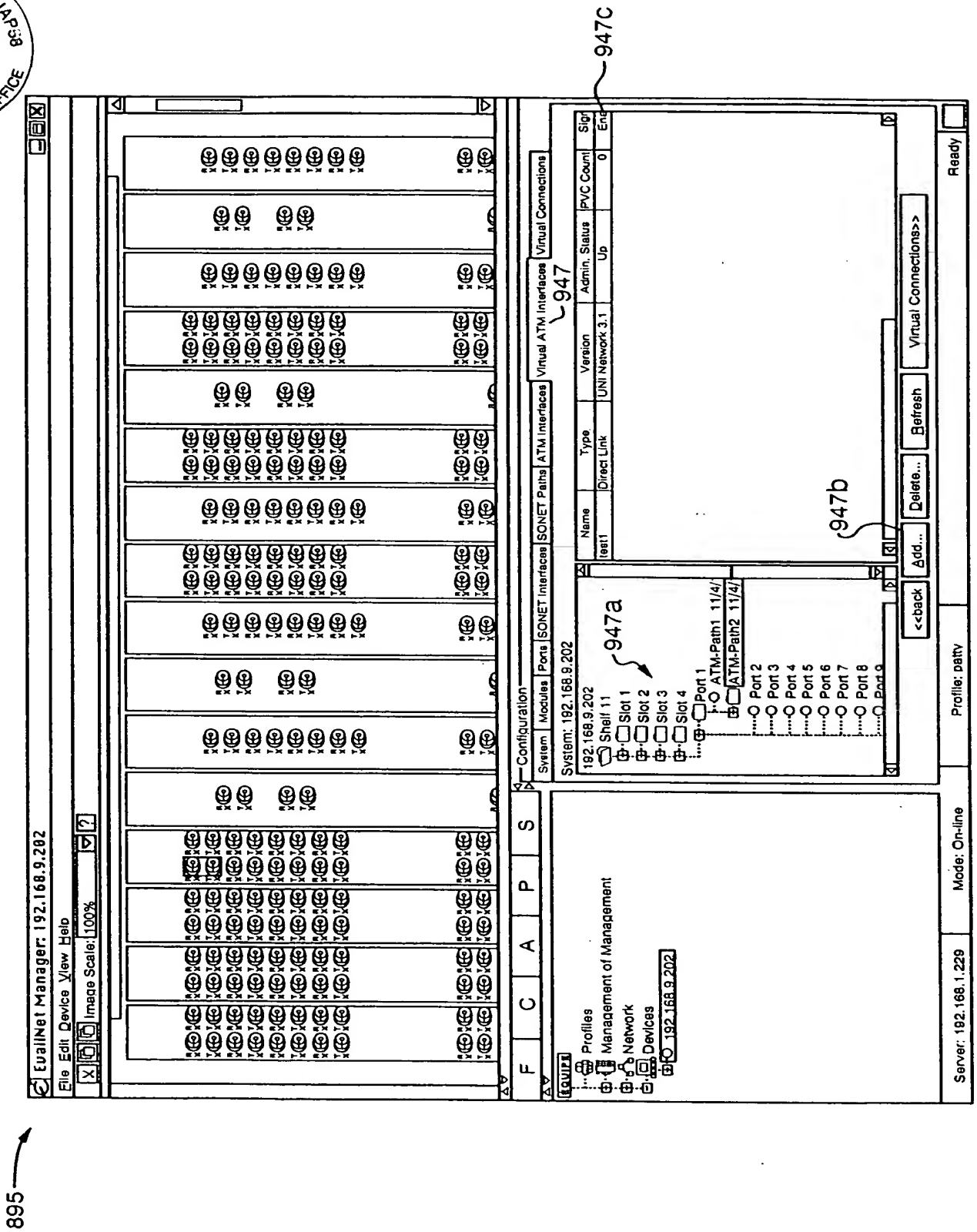


FIG. 5U

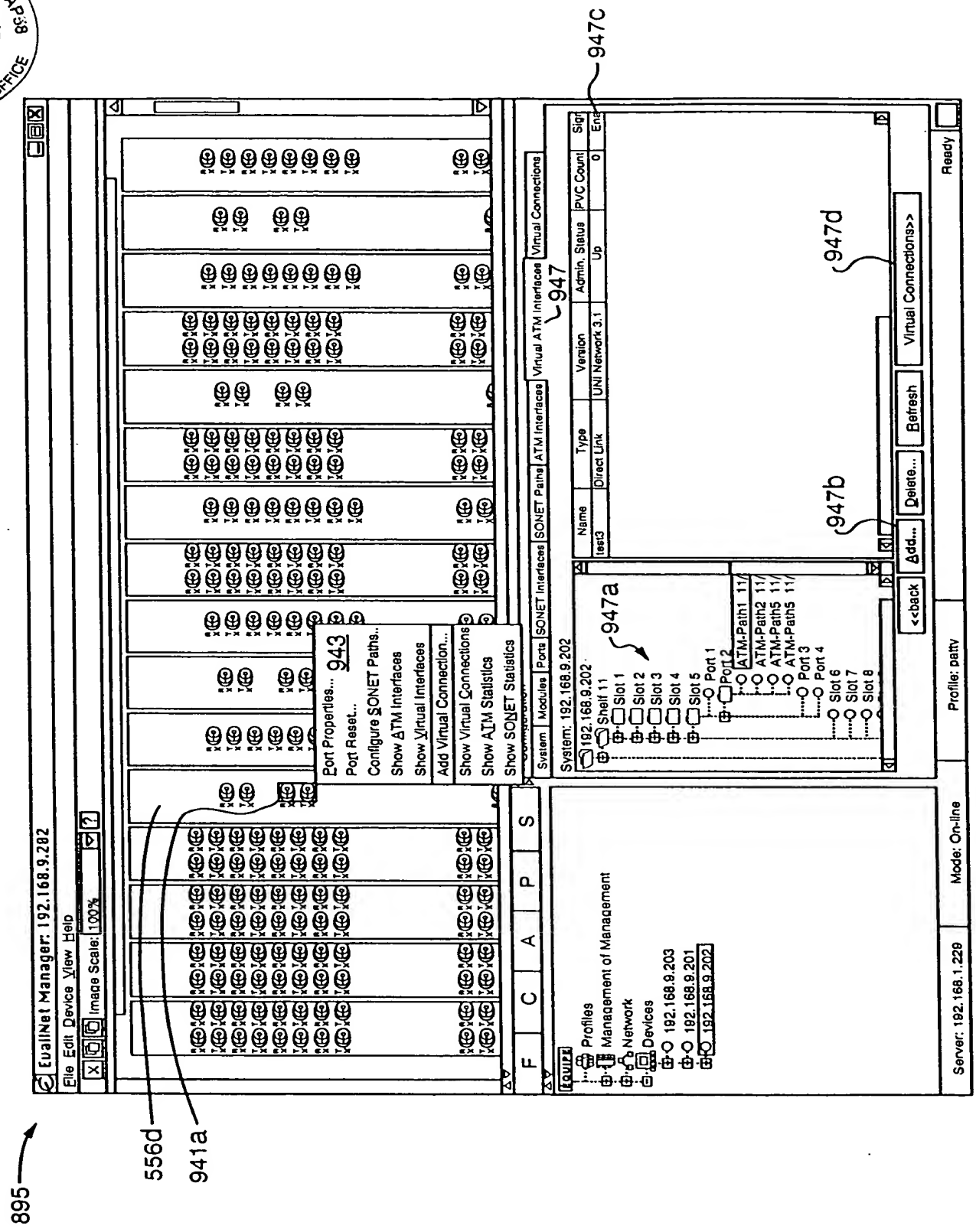


FIG. 5V

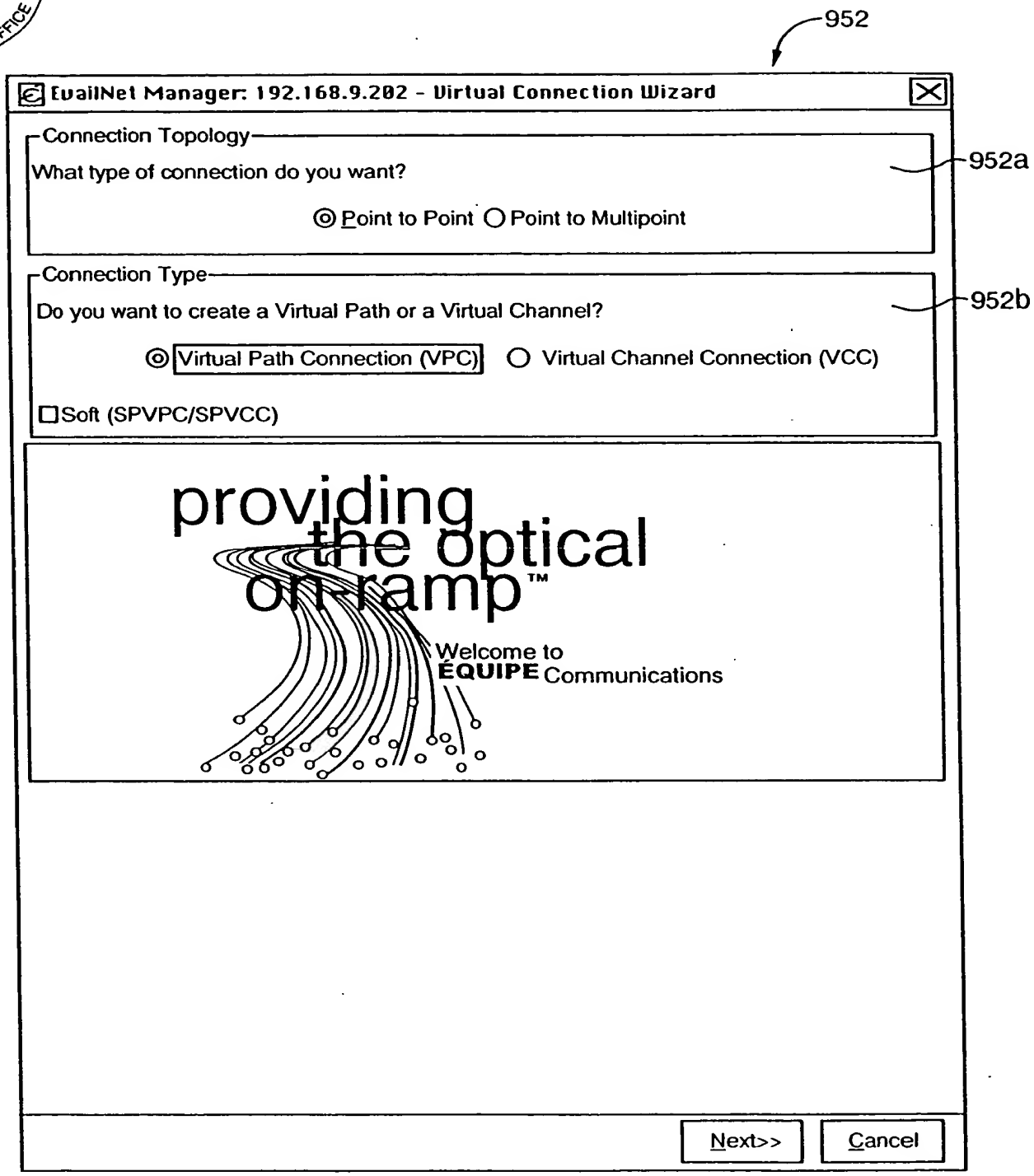


FIG. 5W

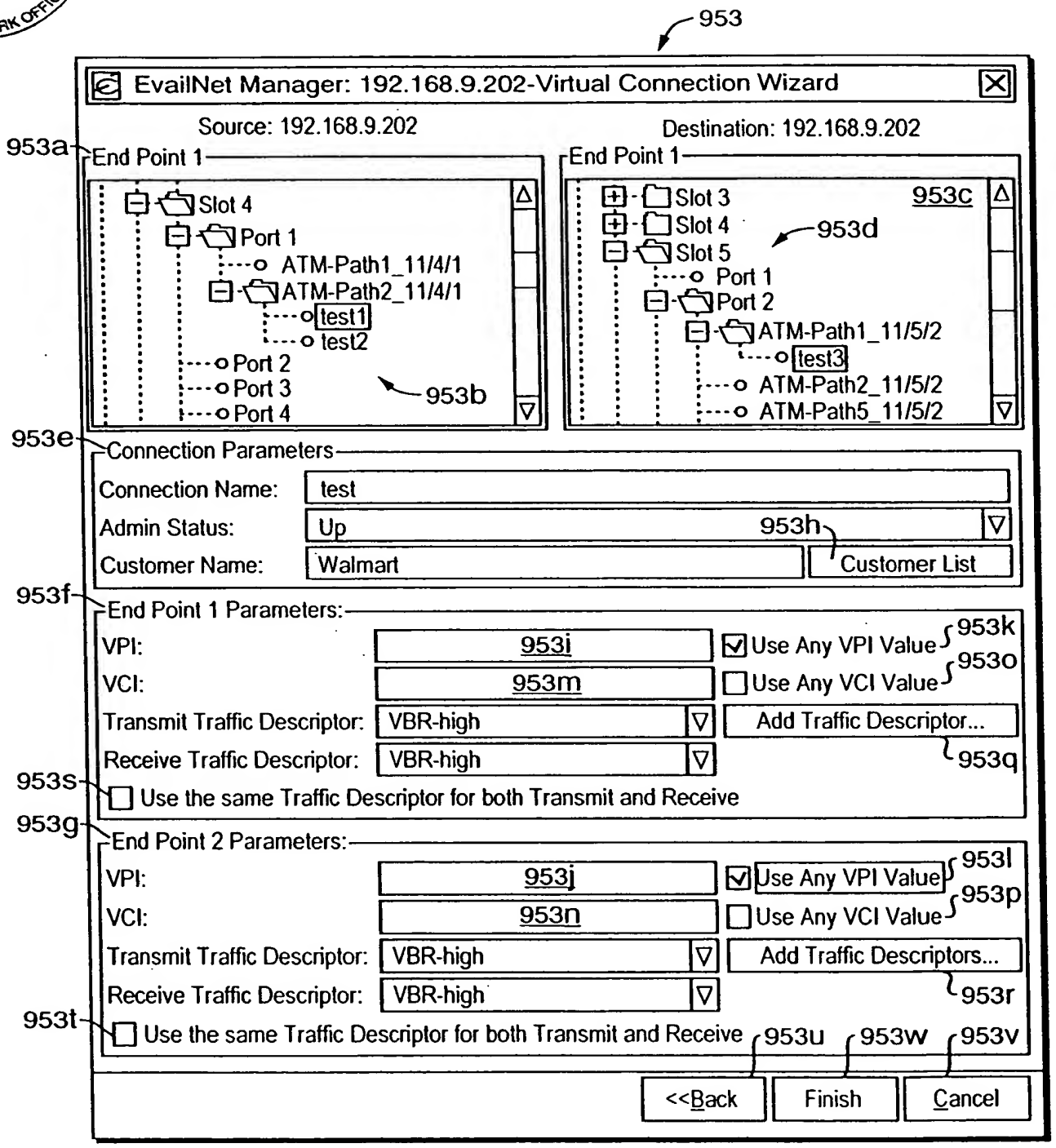


FIG. 5X

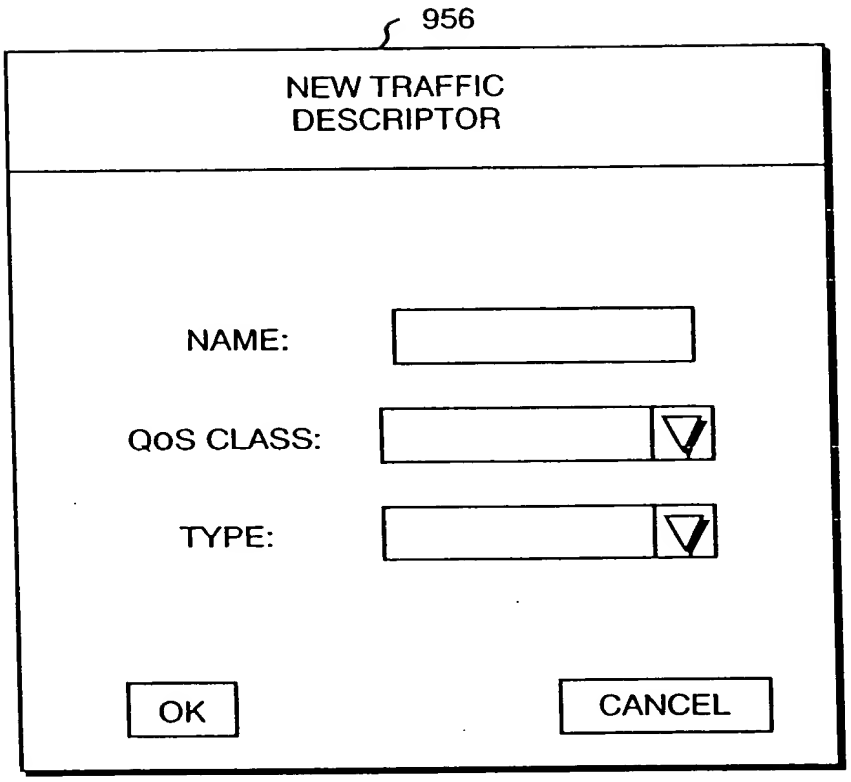


FIG. 5Y

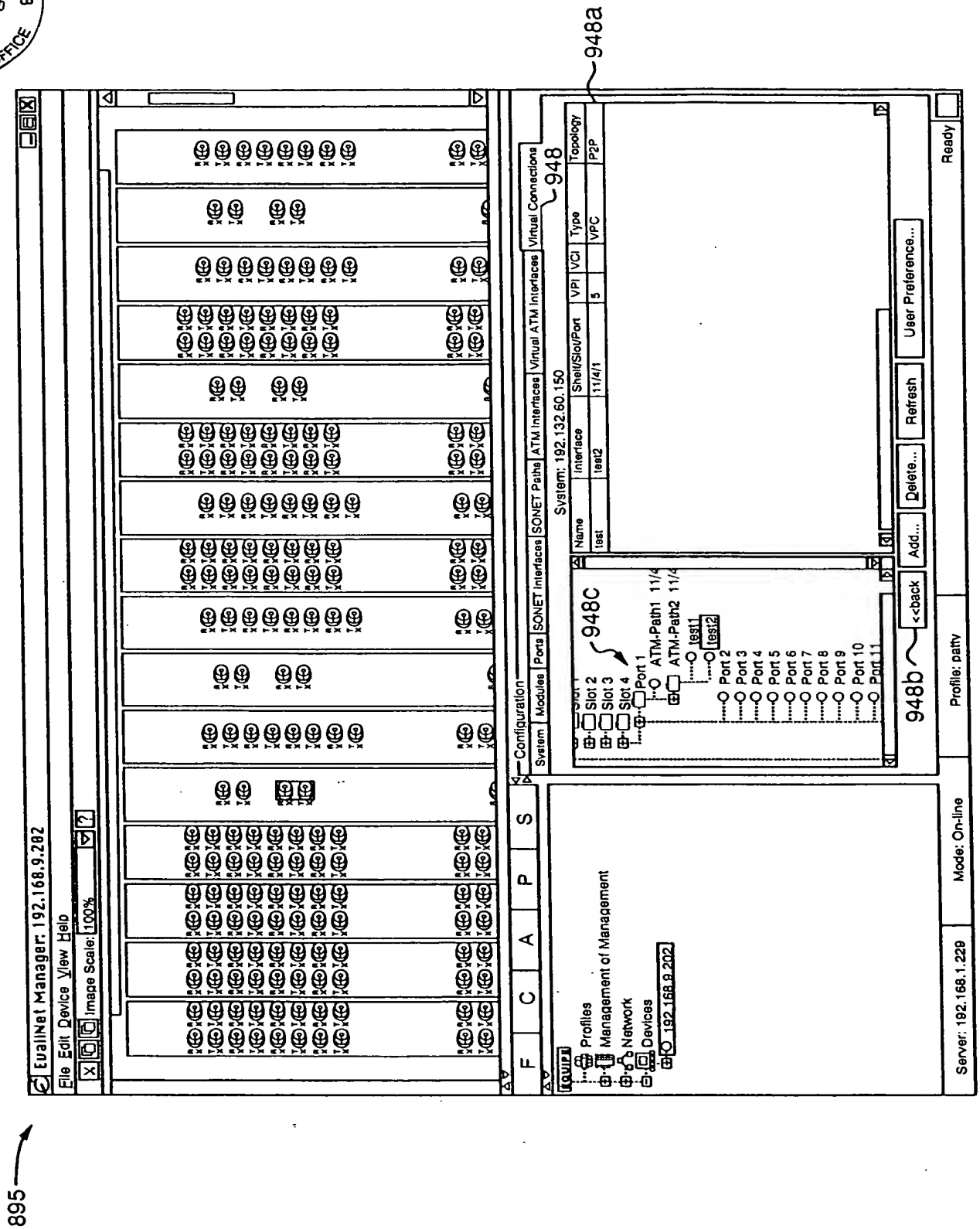


FIG. 5Z

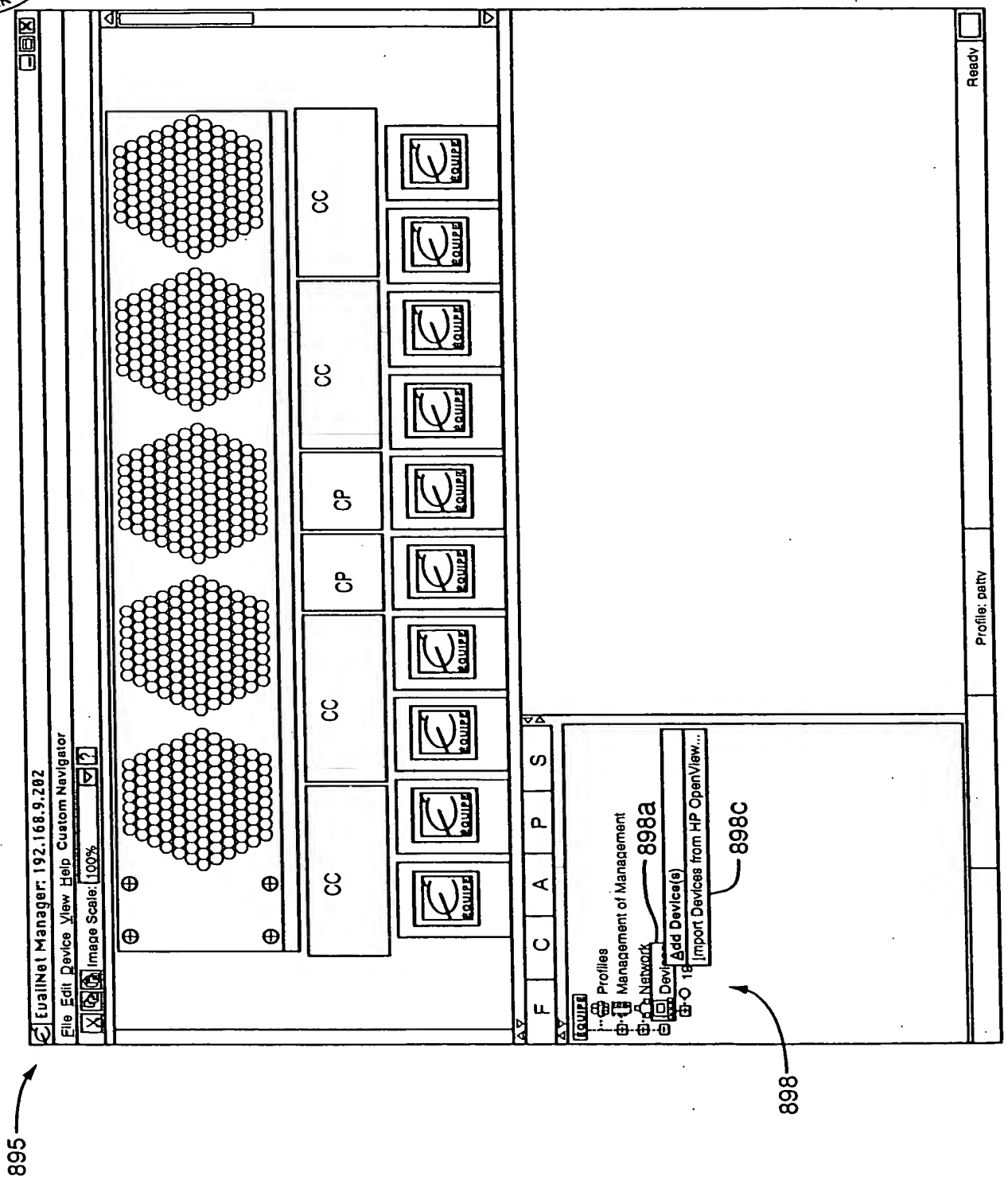


FIG. 6A

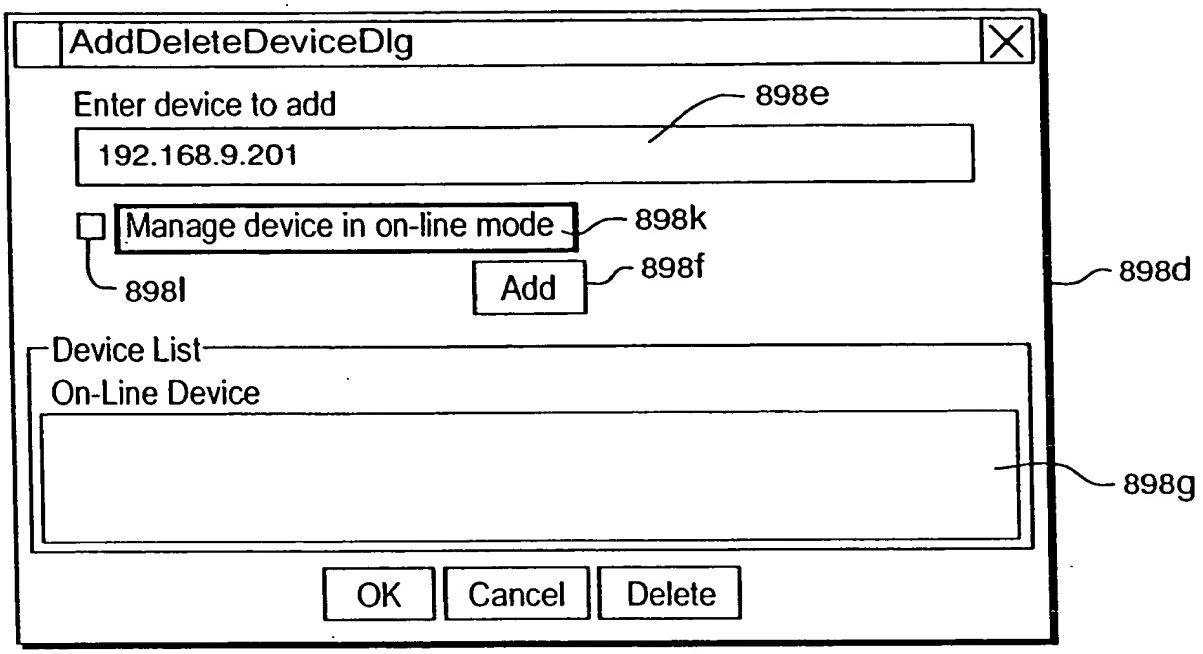


FIG. 6B

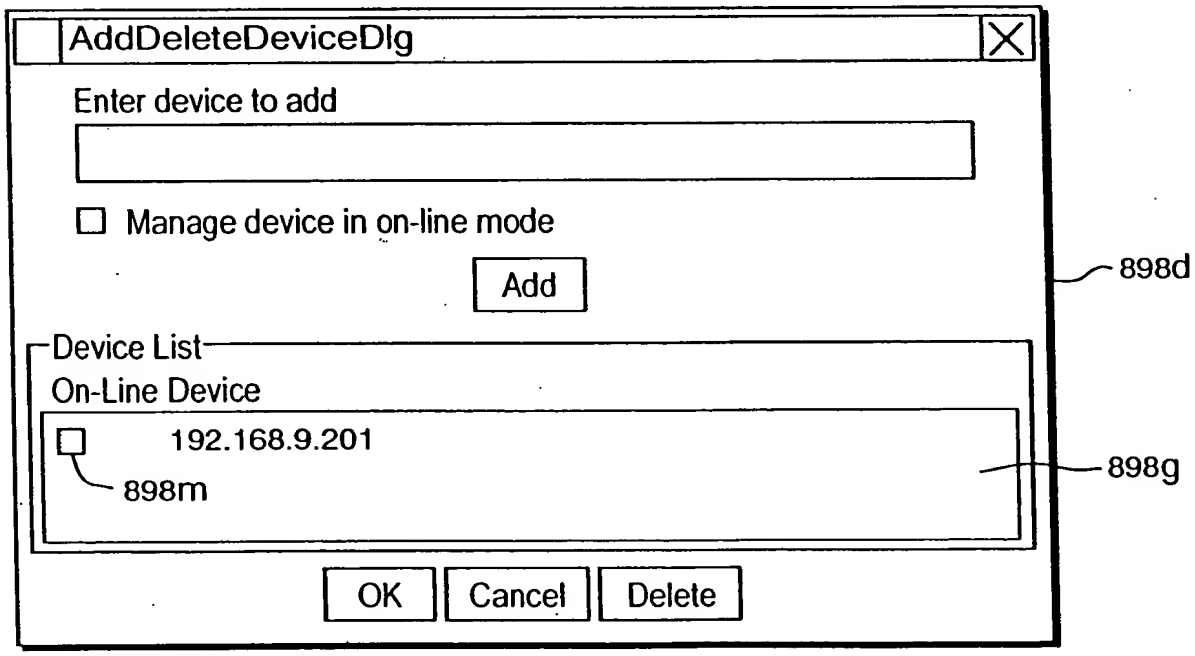


FIG. 6C

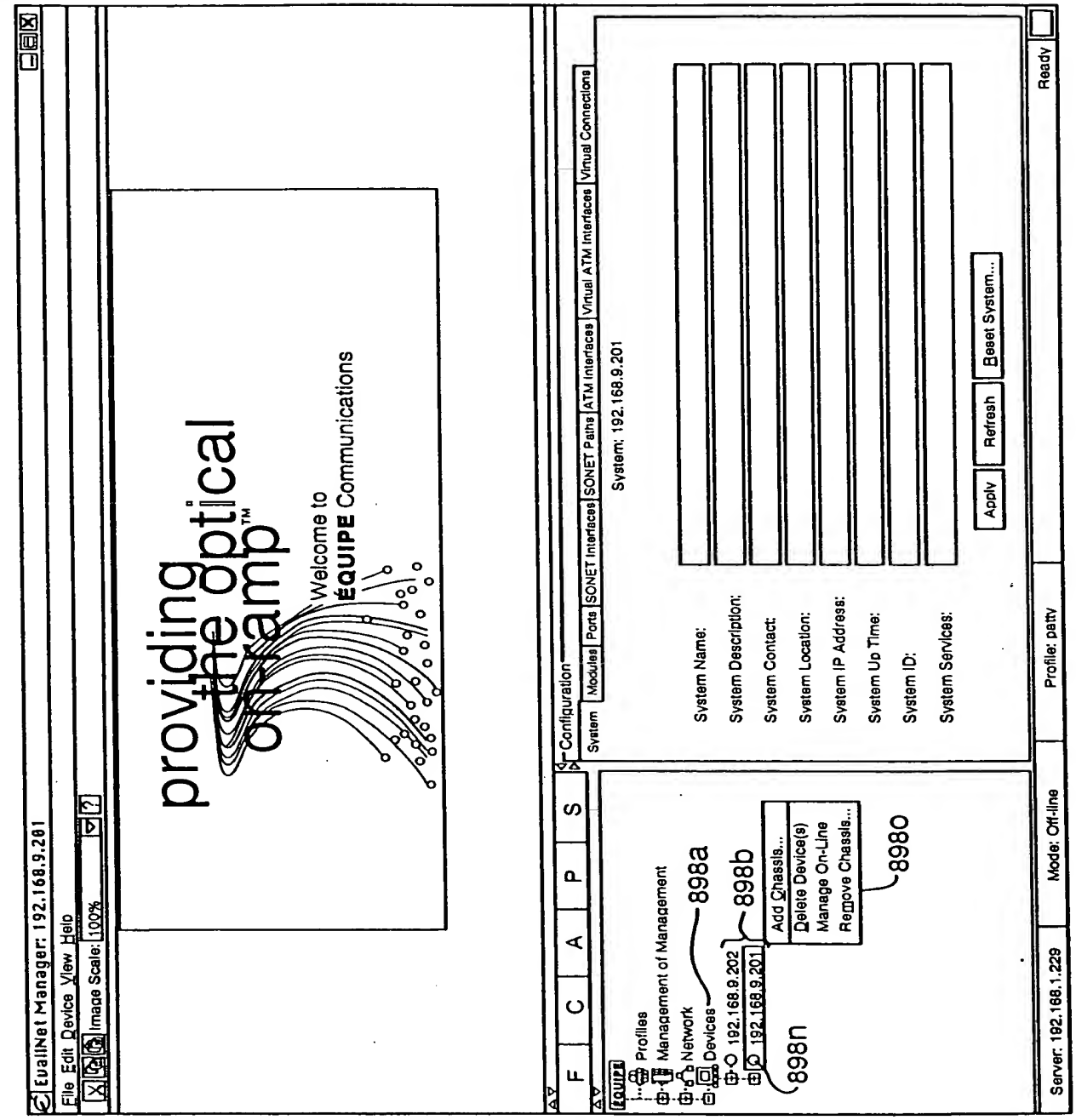


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FIG. 6D

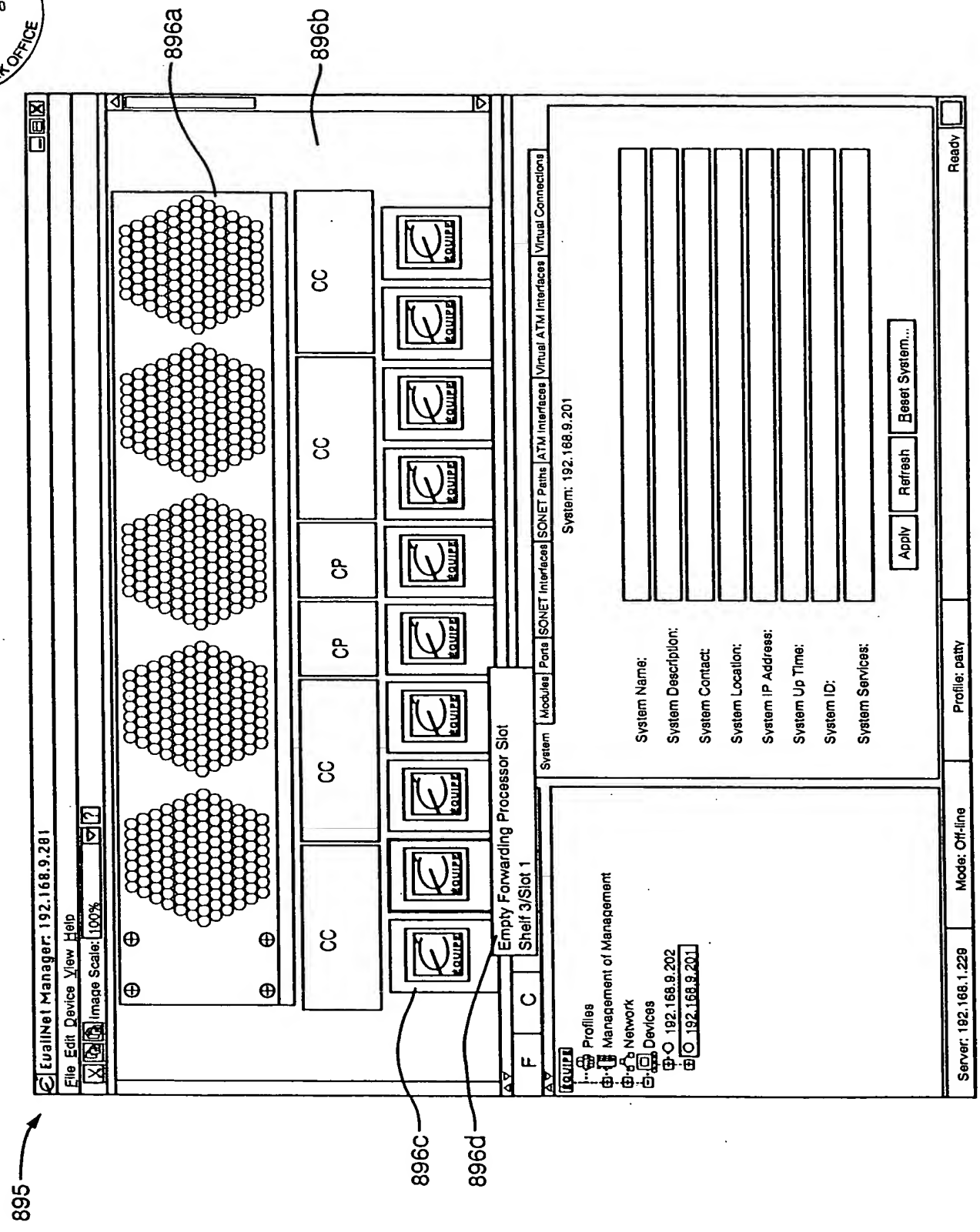


FIG. 6E

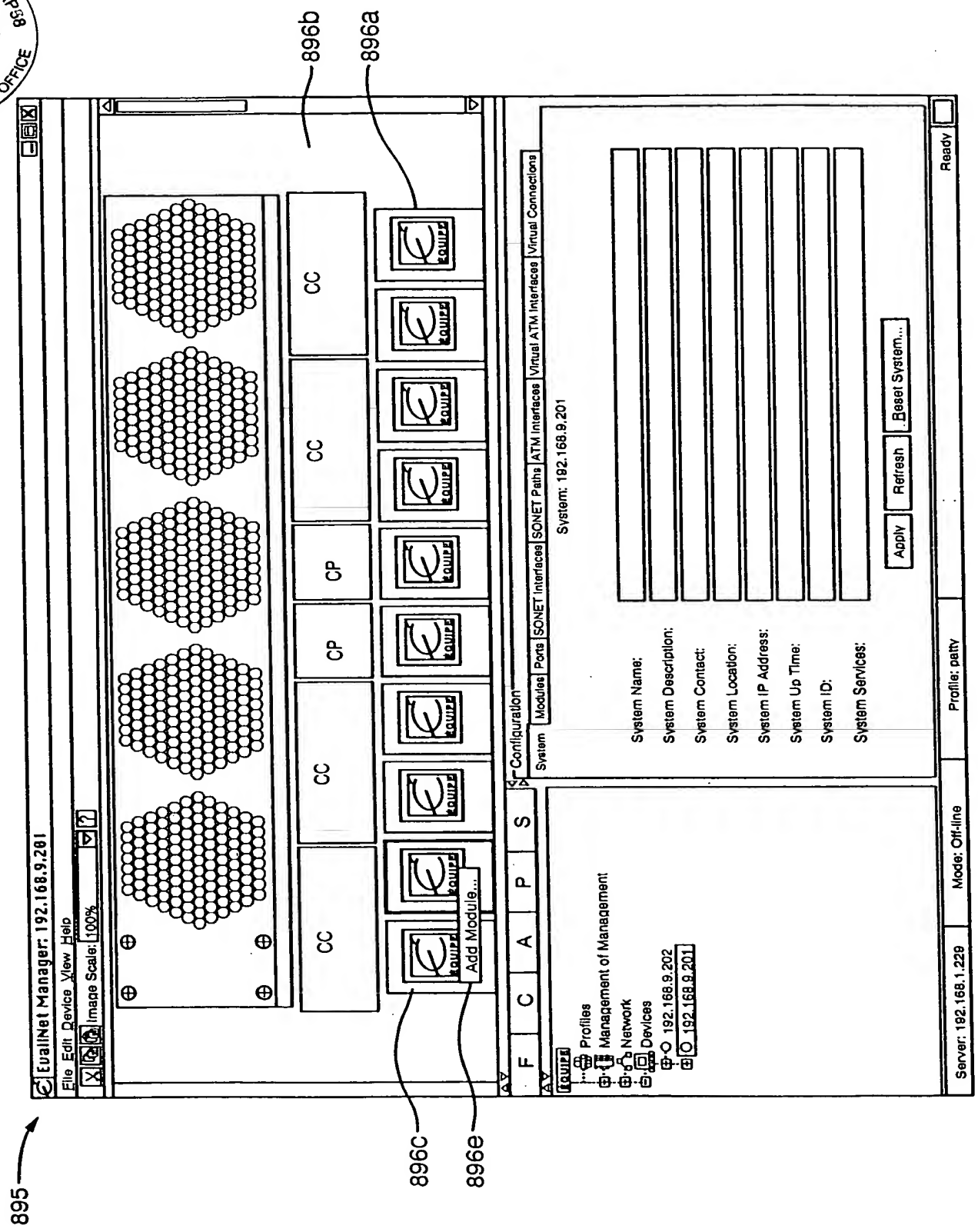


FIG. 6F

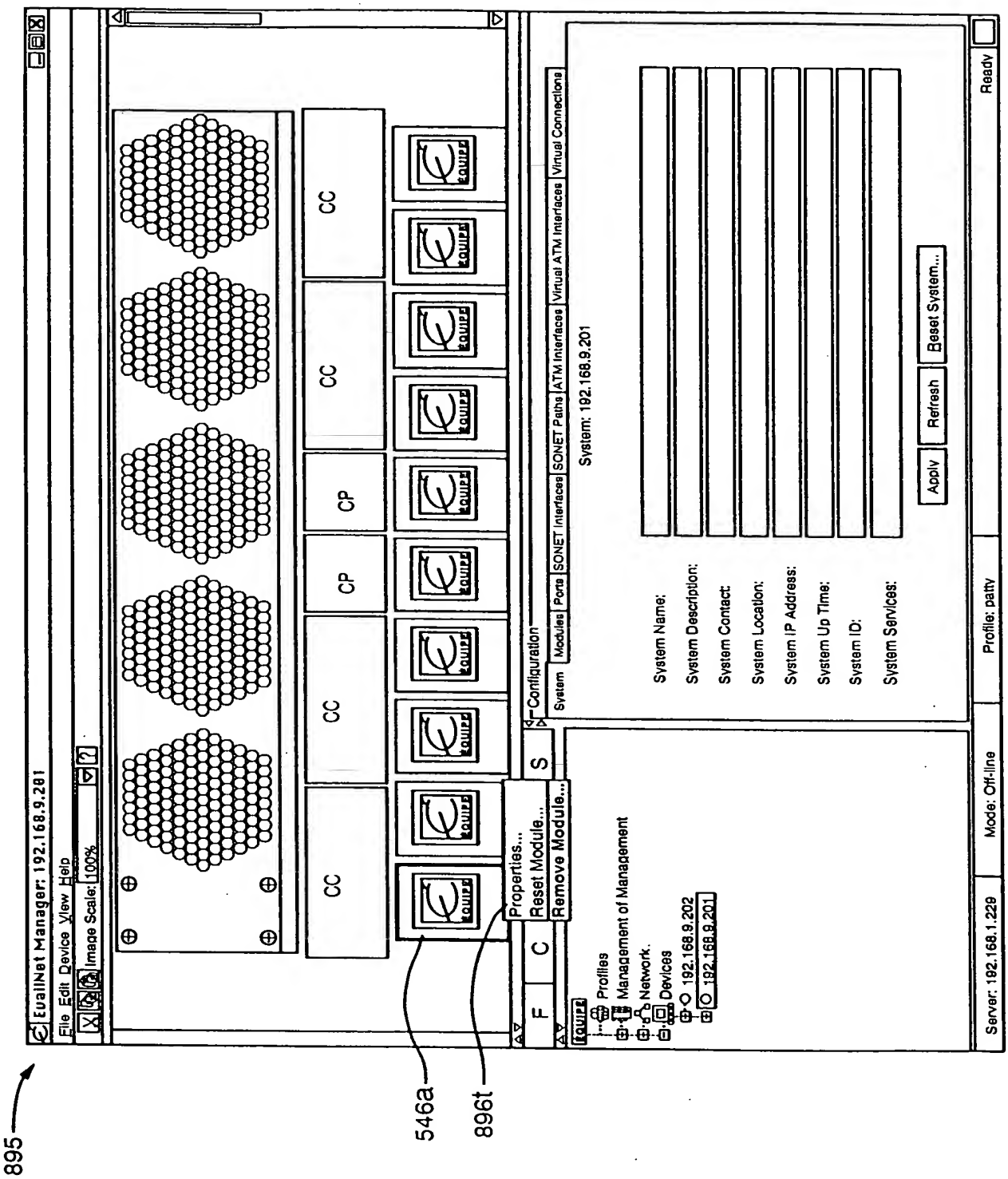


FIG. 6G

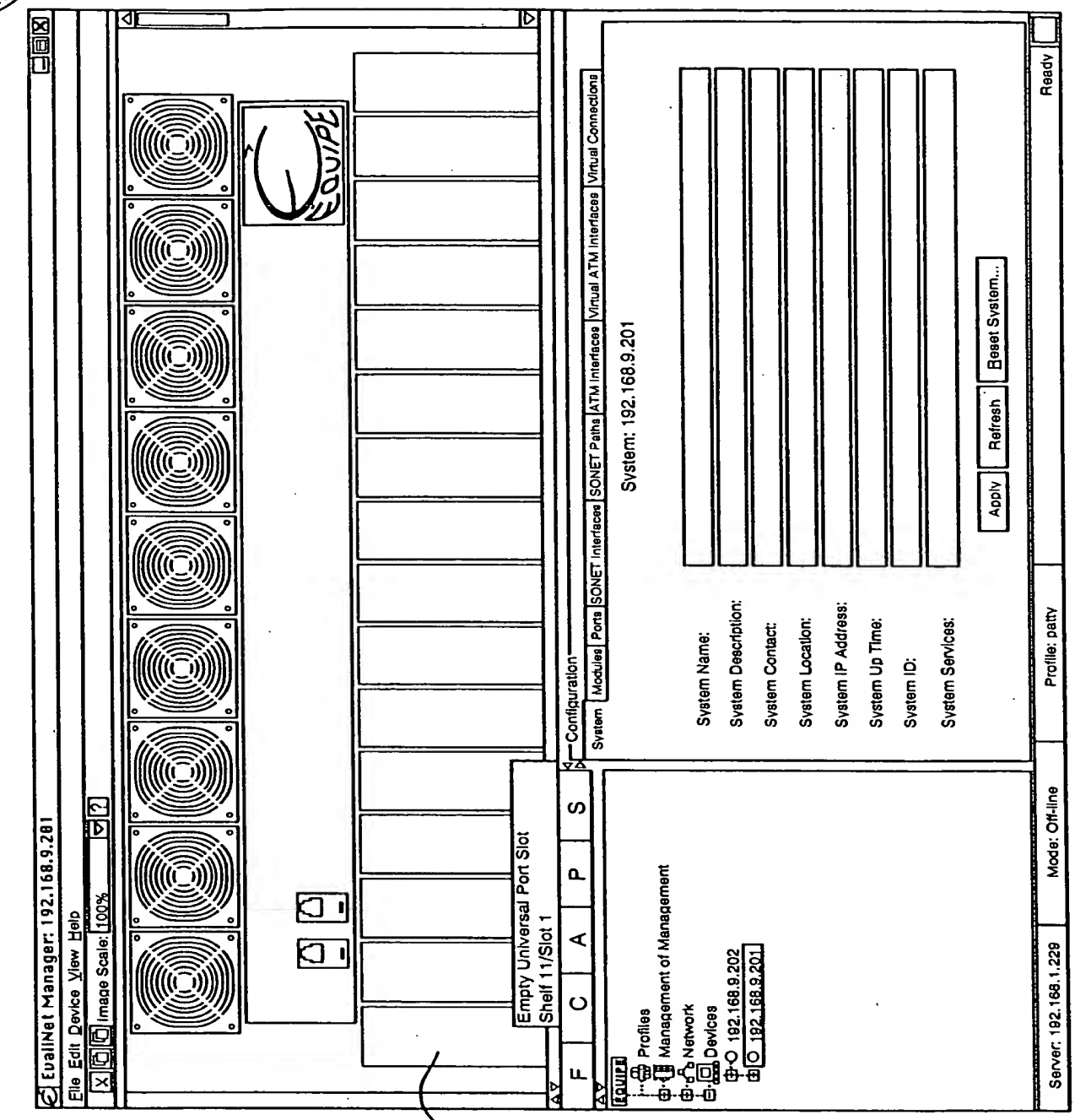


FIG. 6H

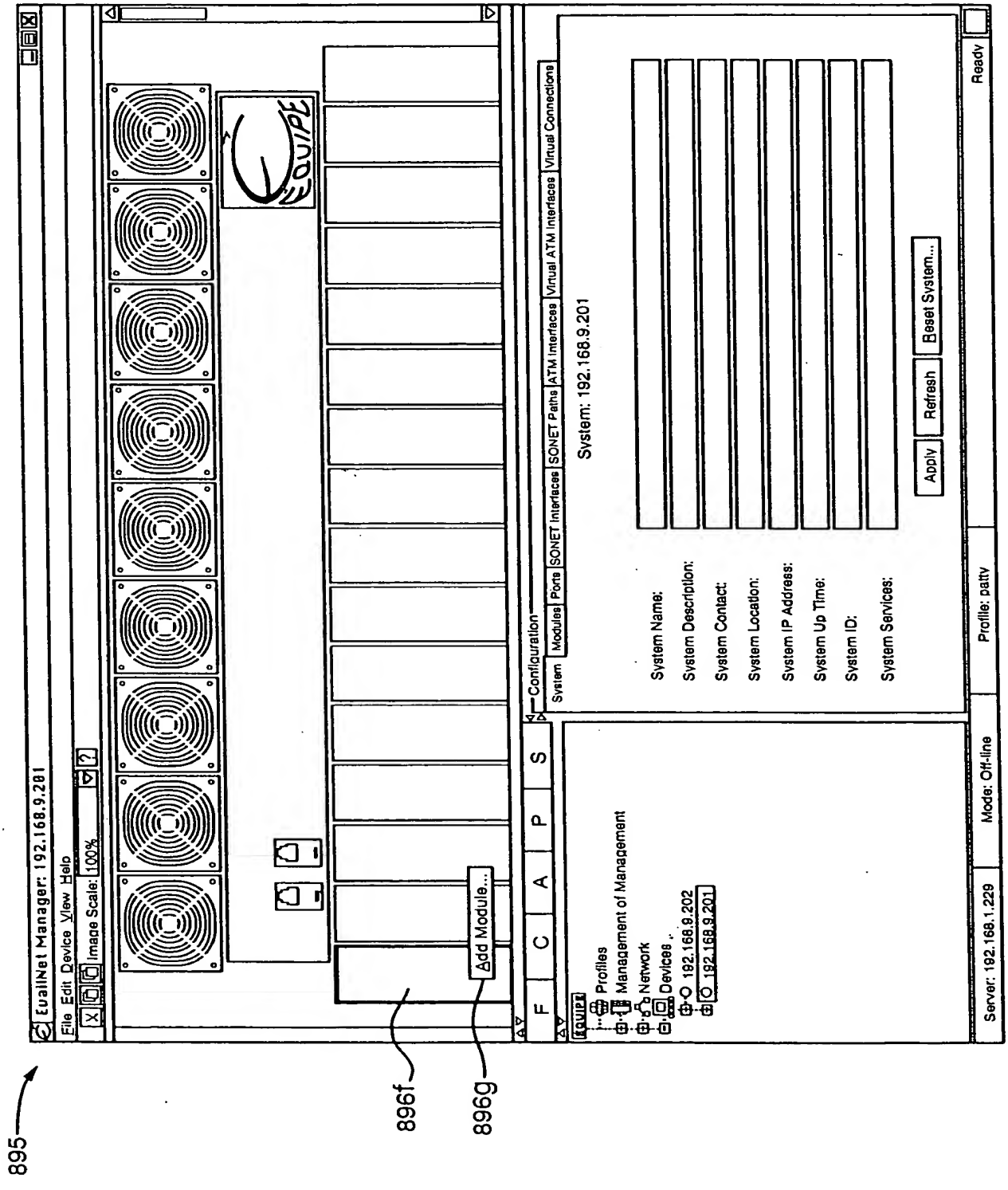


FIG. 6I

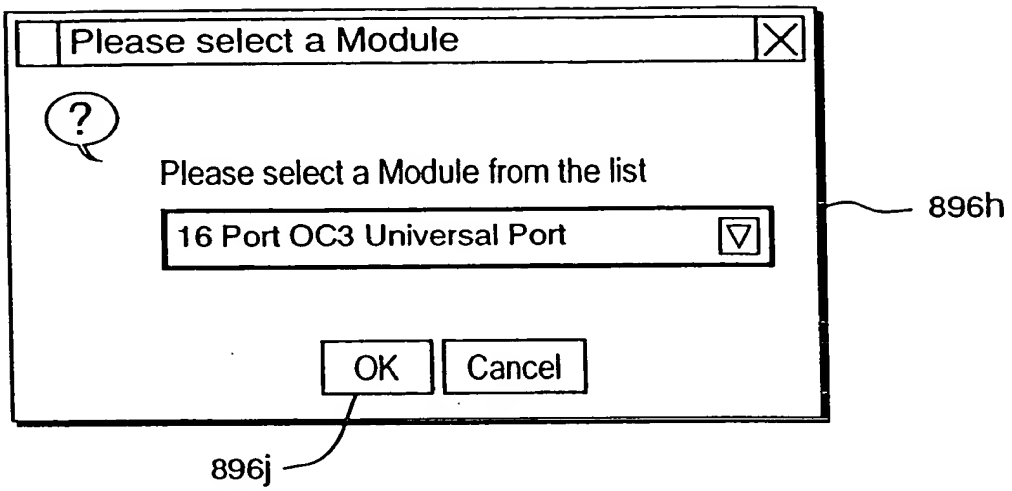


FIG. 6J

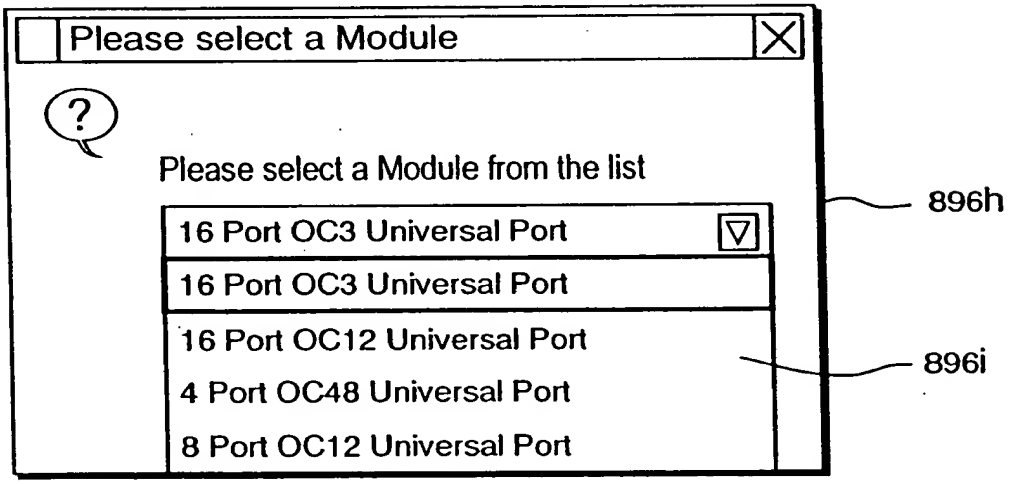


FIG. 6K

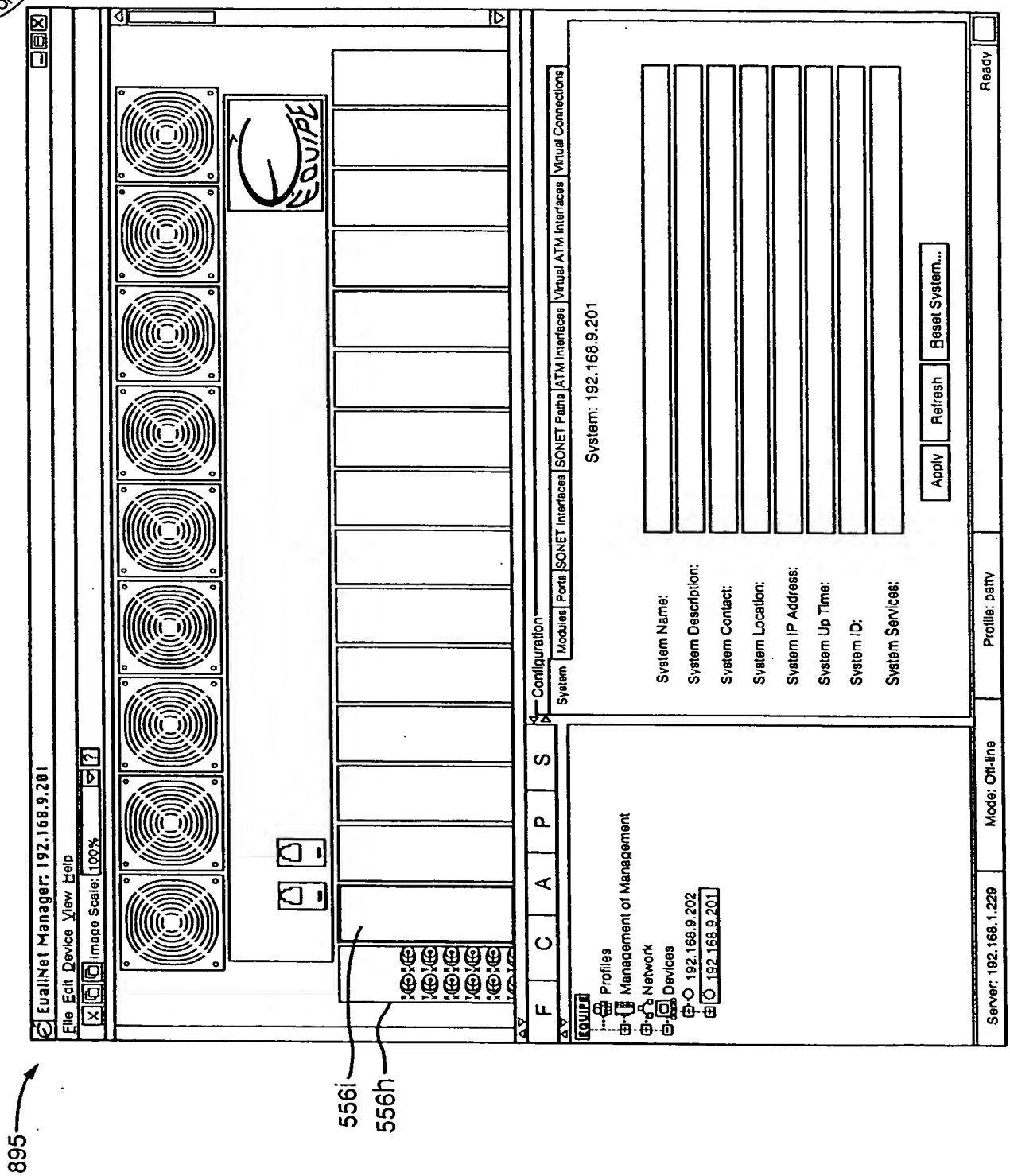


FIG. 6L

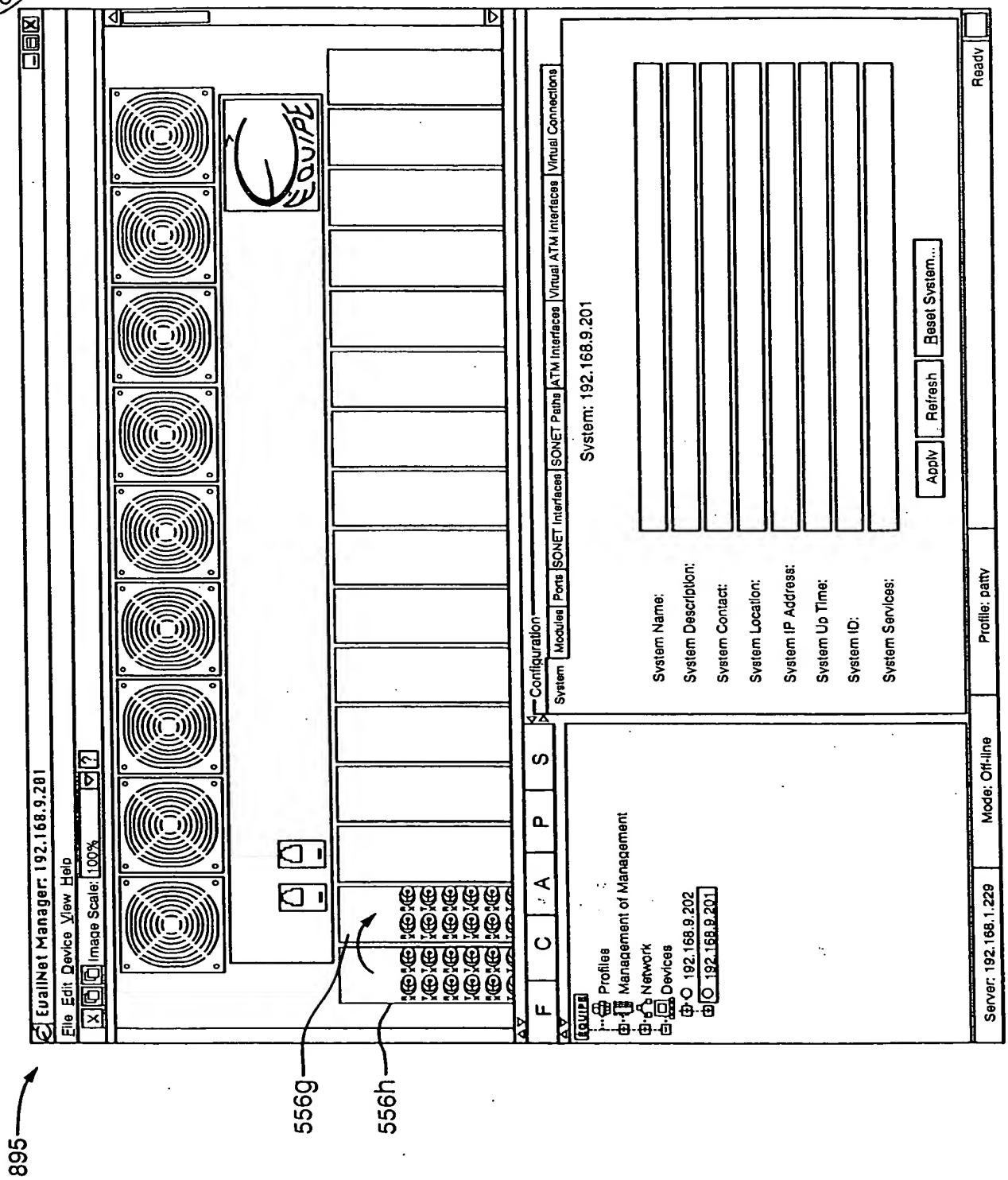


FIG. 6M

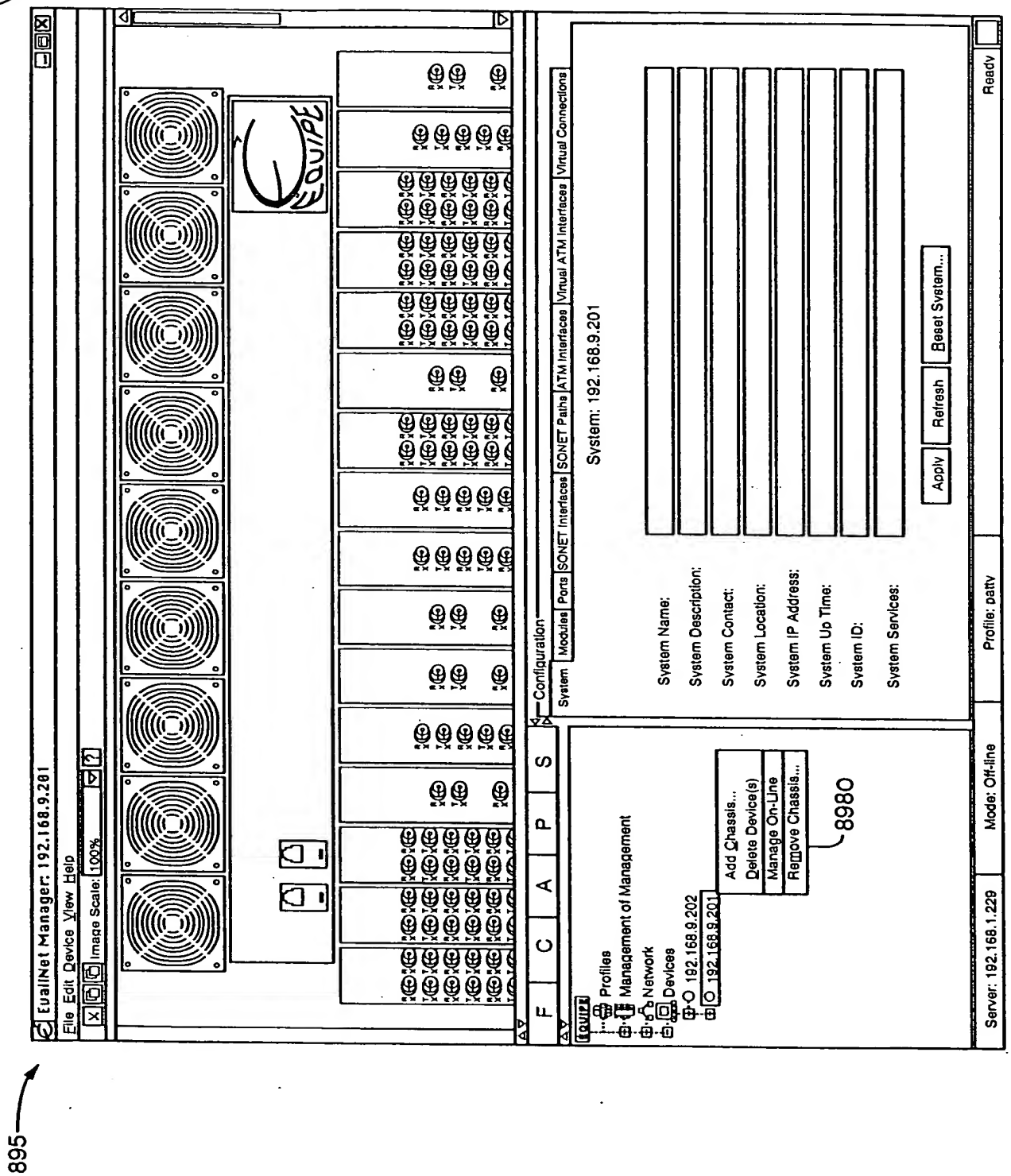
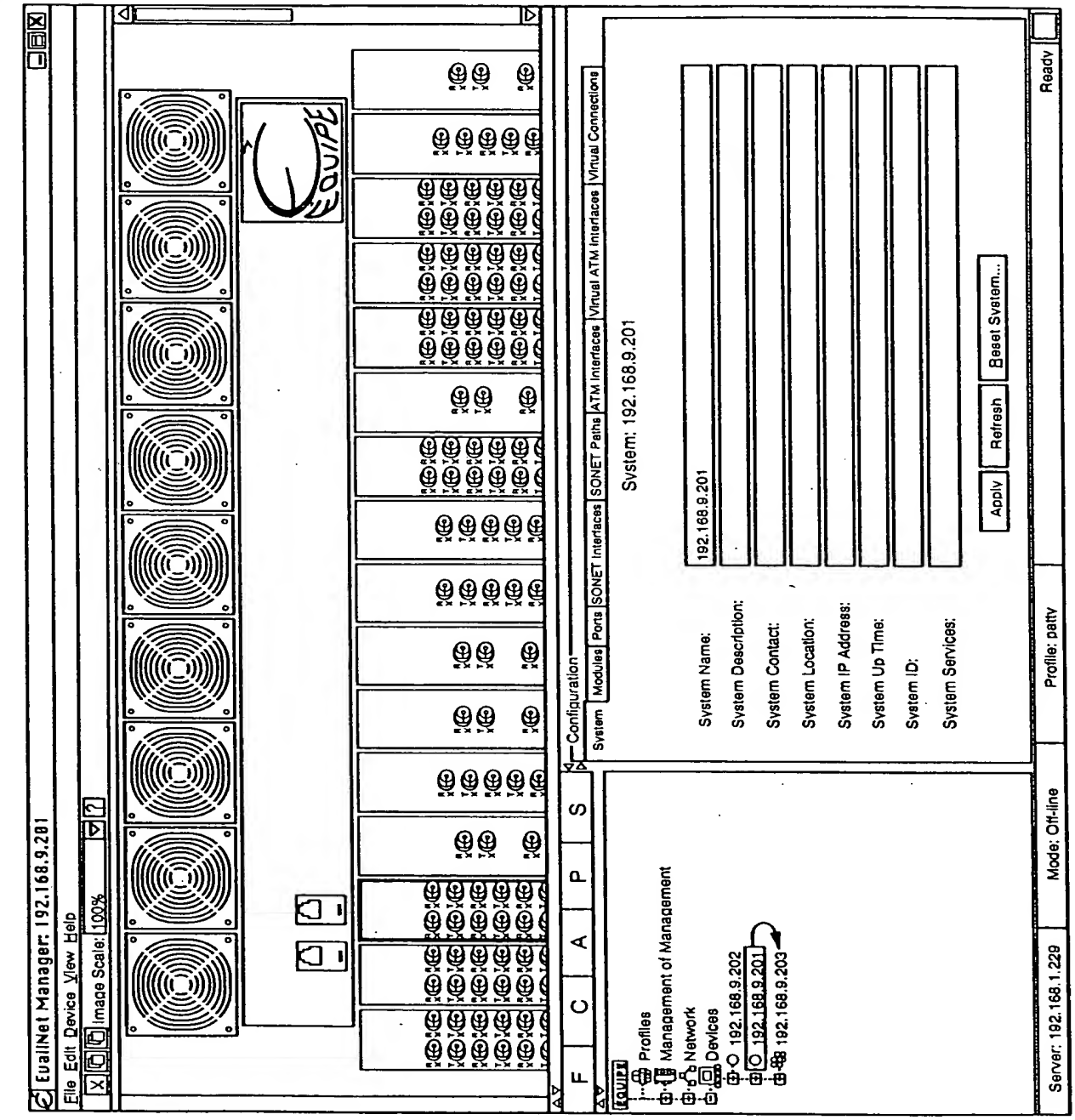


FIG. 6N



895

FIG. 60

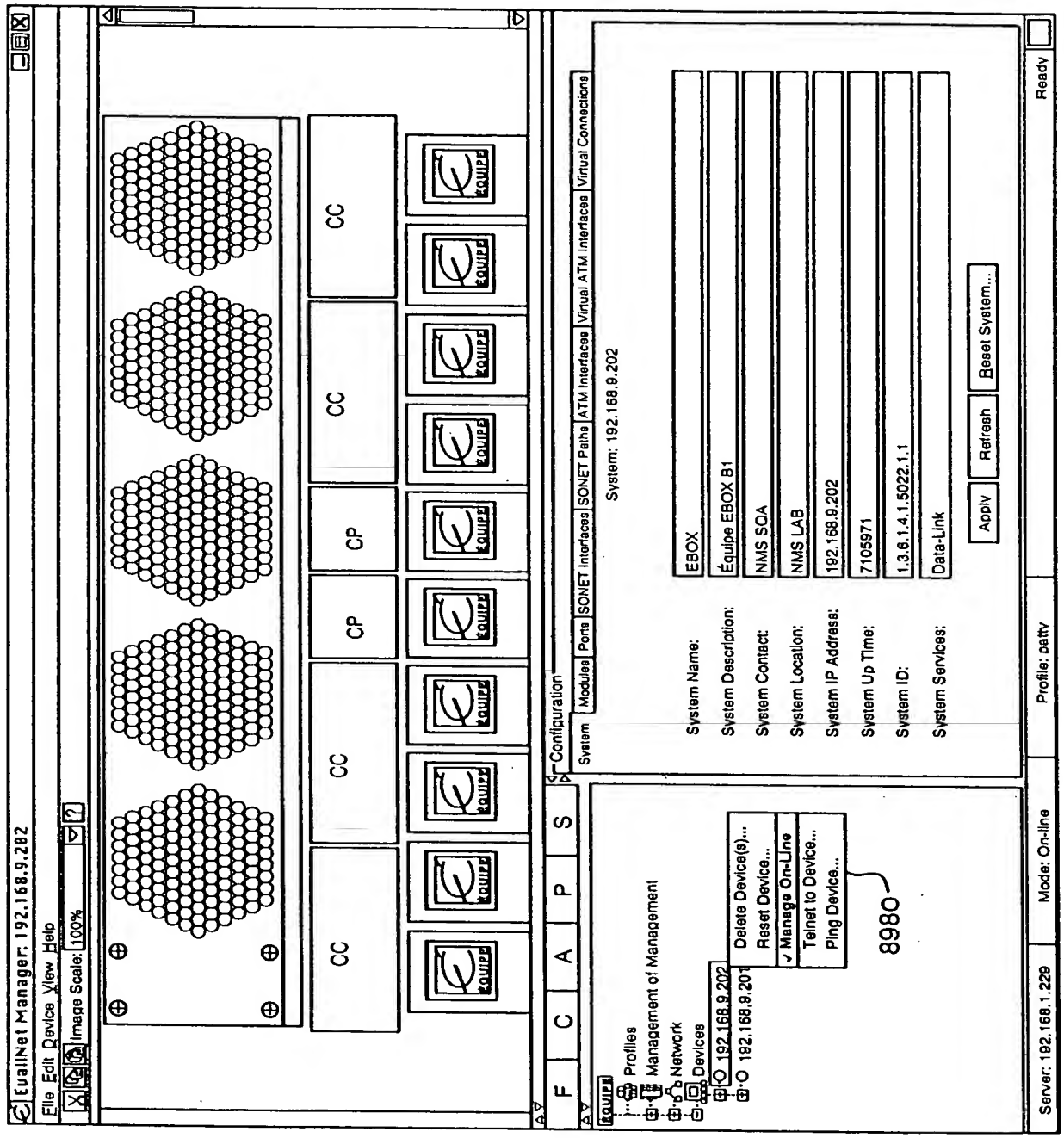


FIG. 6P

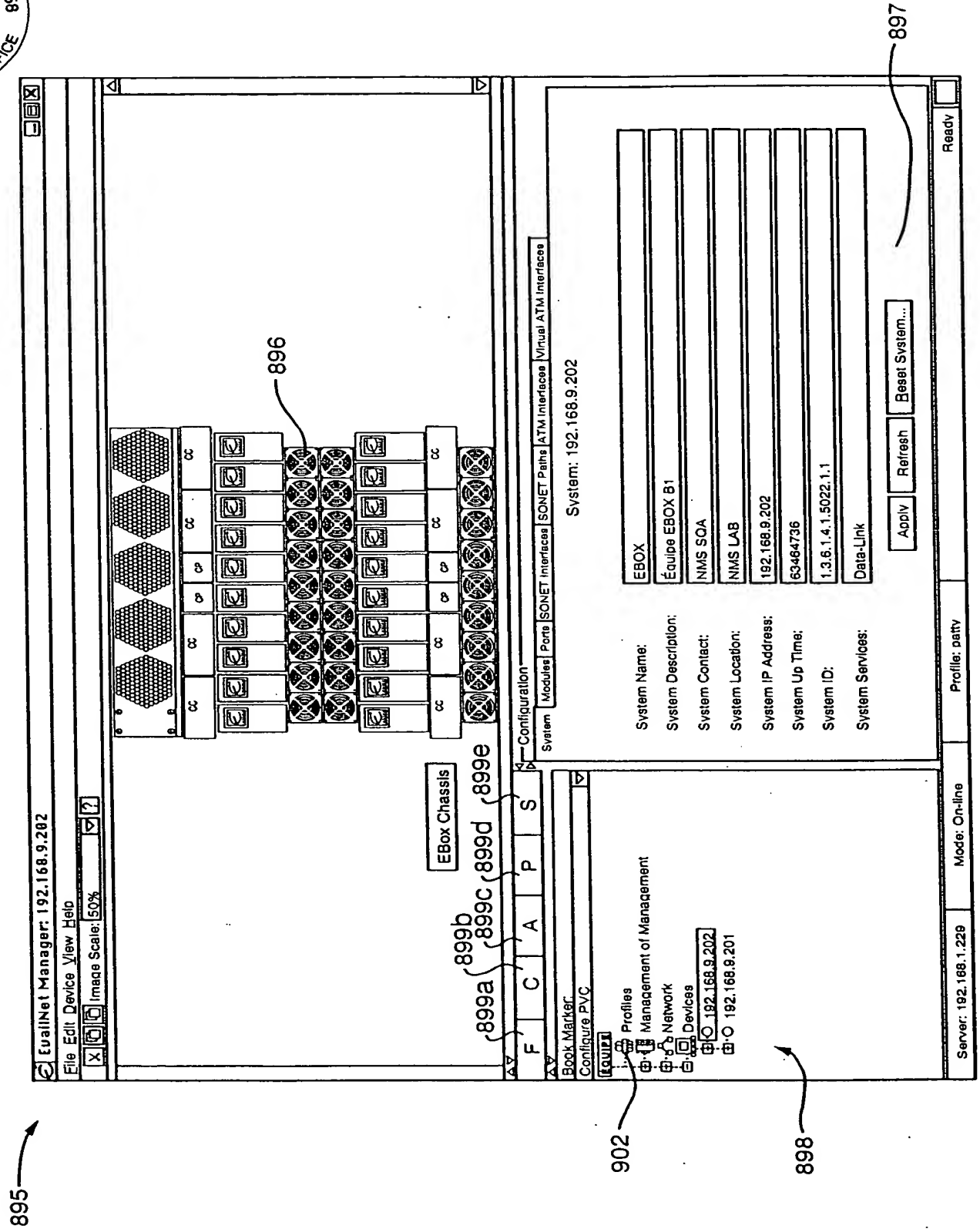


FIG. 7A

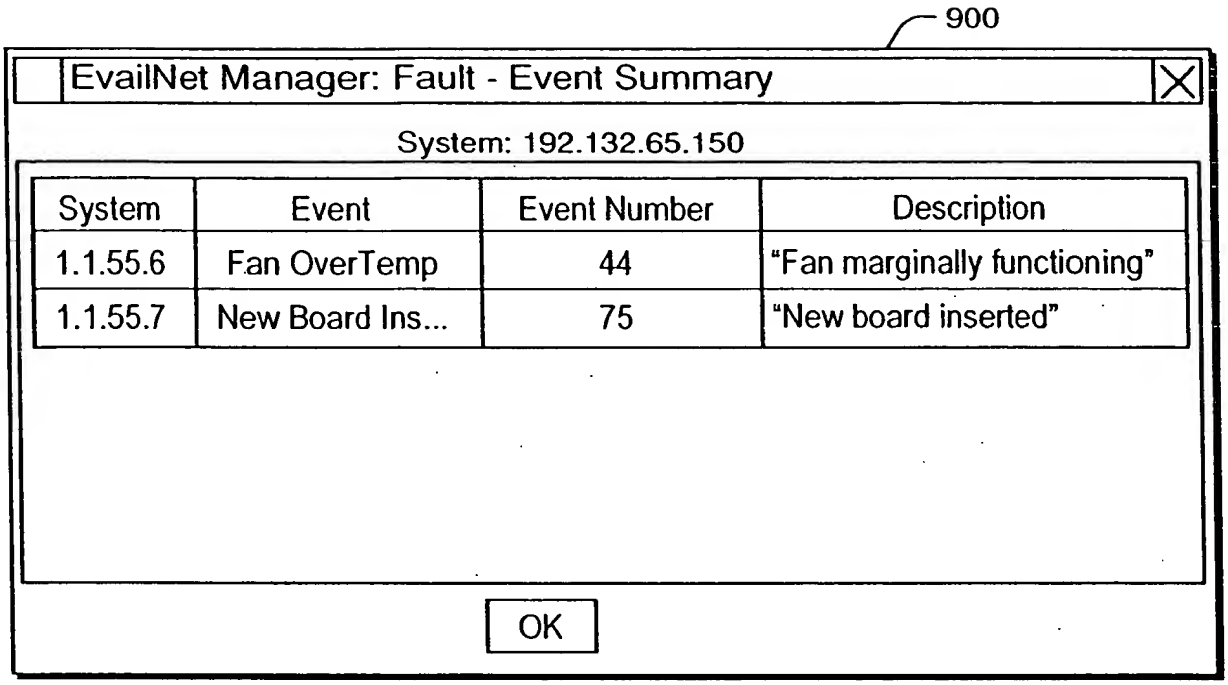


FIG. 7B

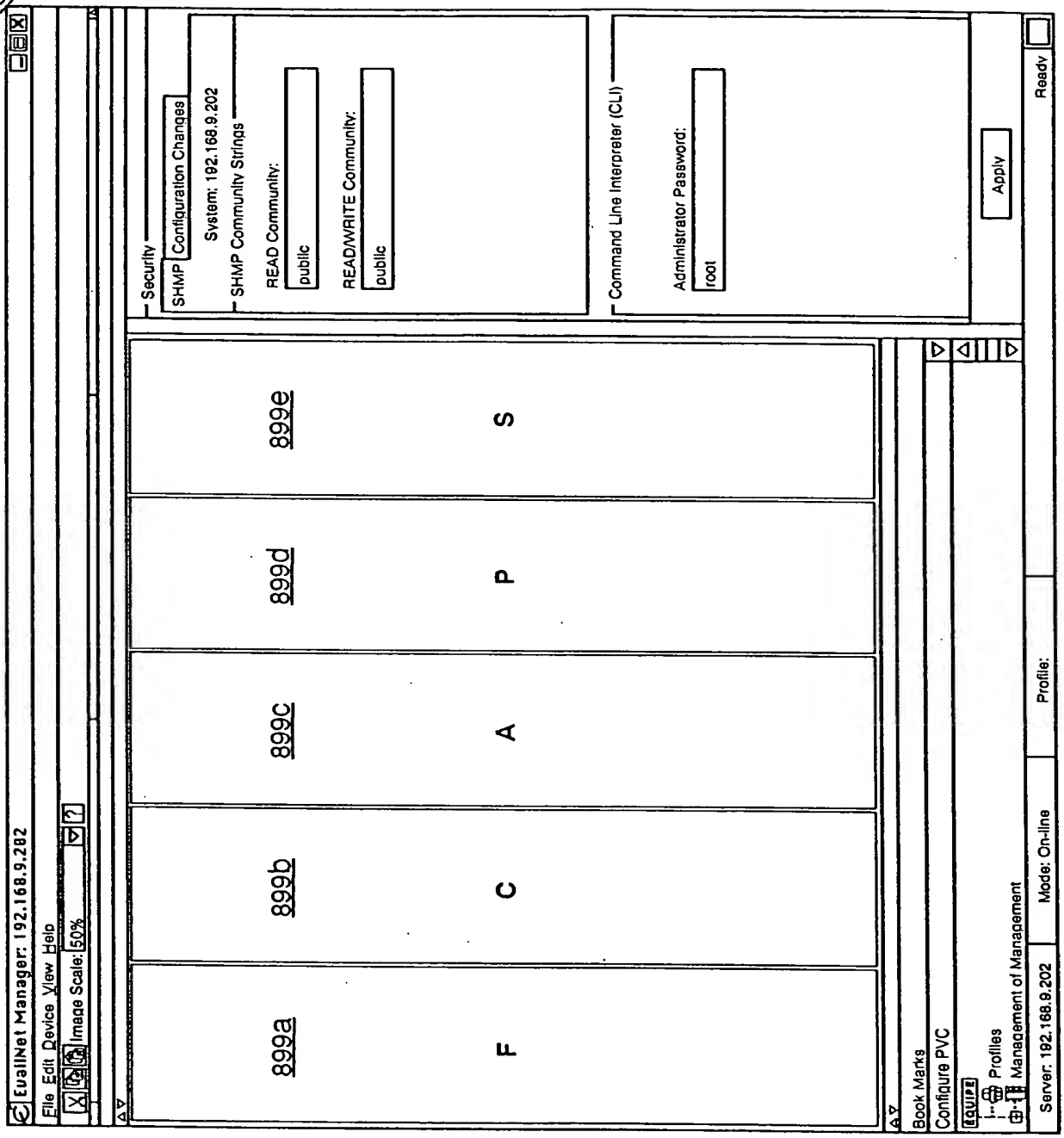


FIG. 7C

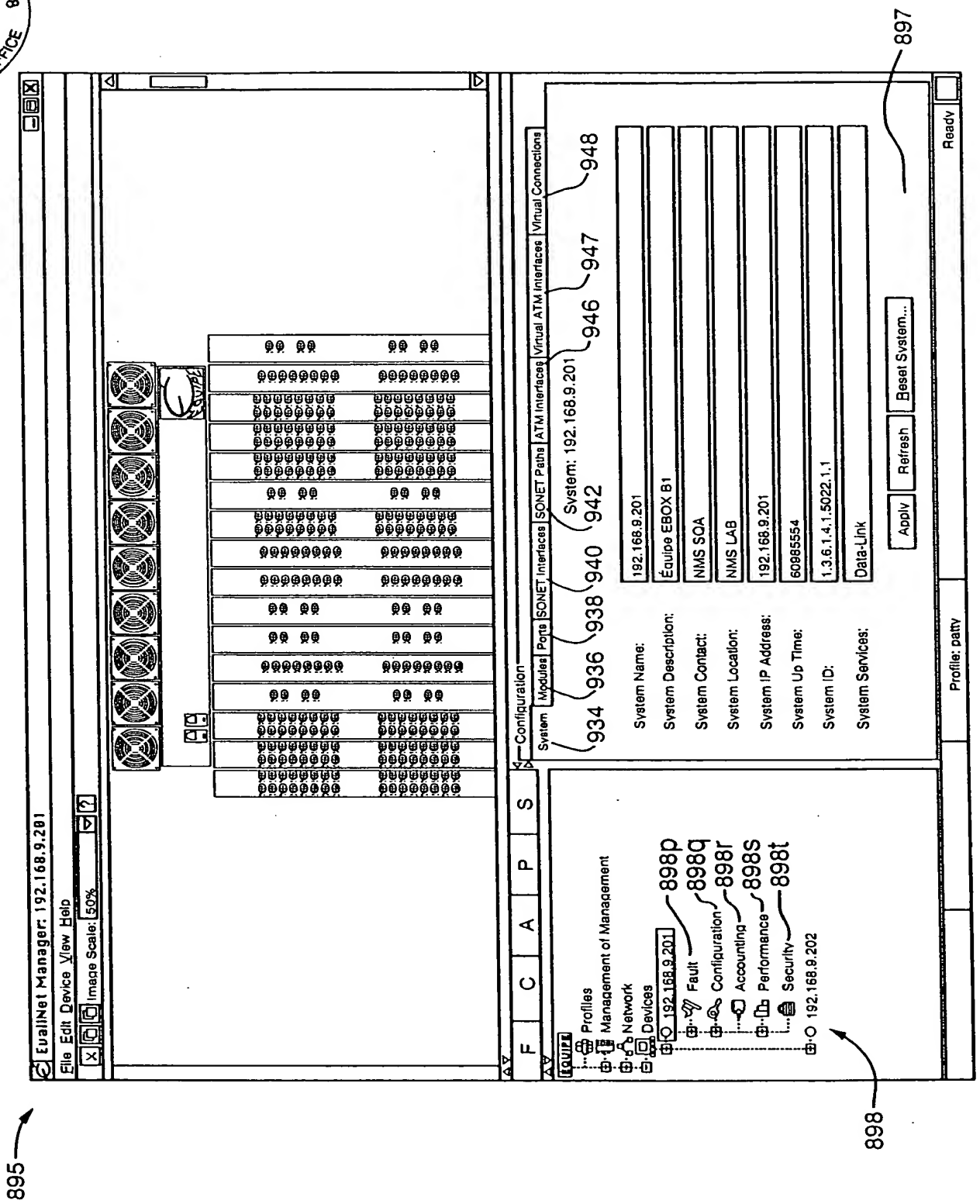


FIG. 7D

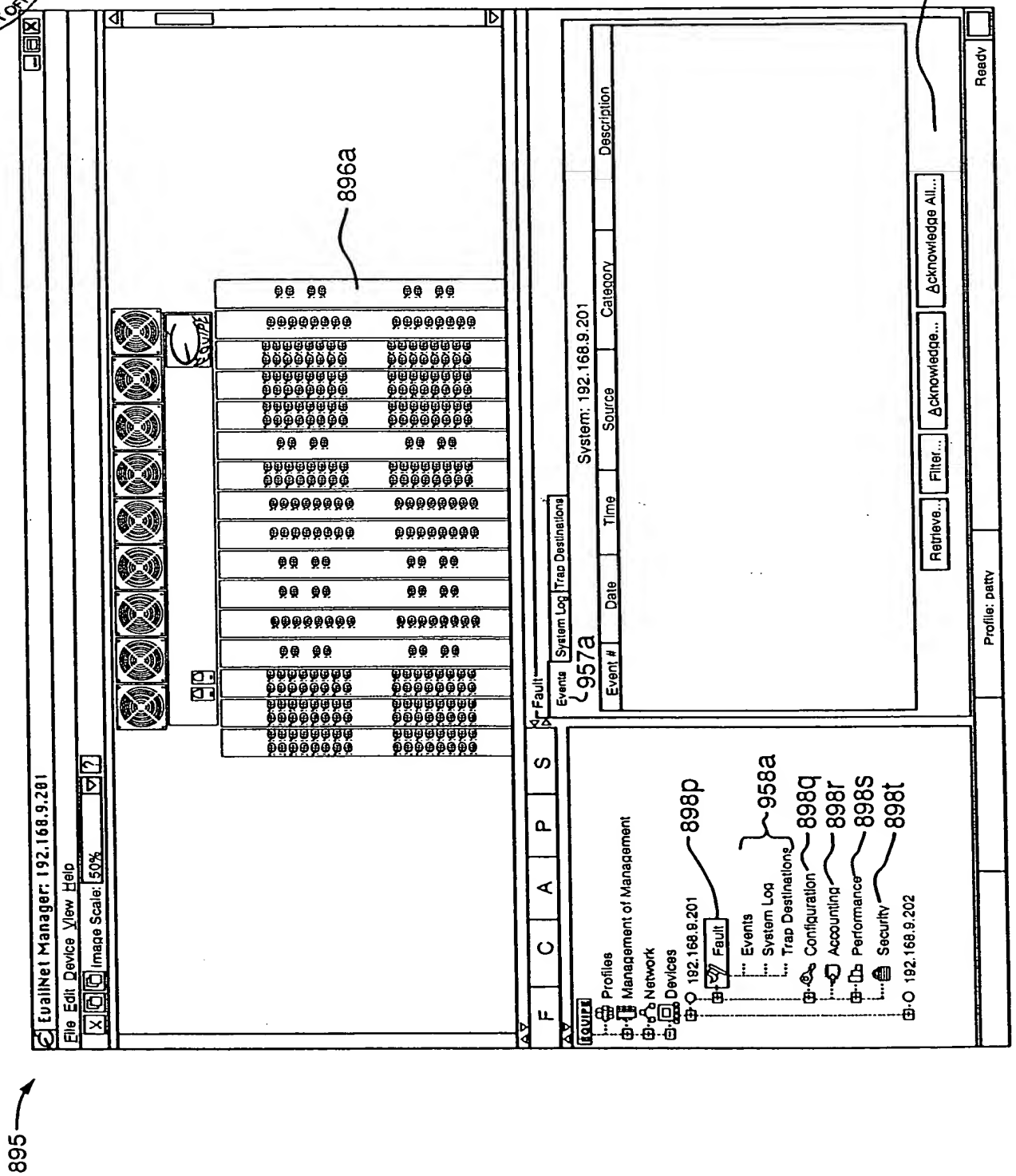


FIG. 7E

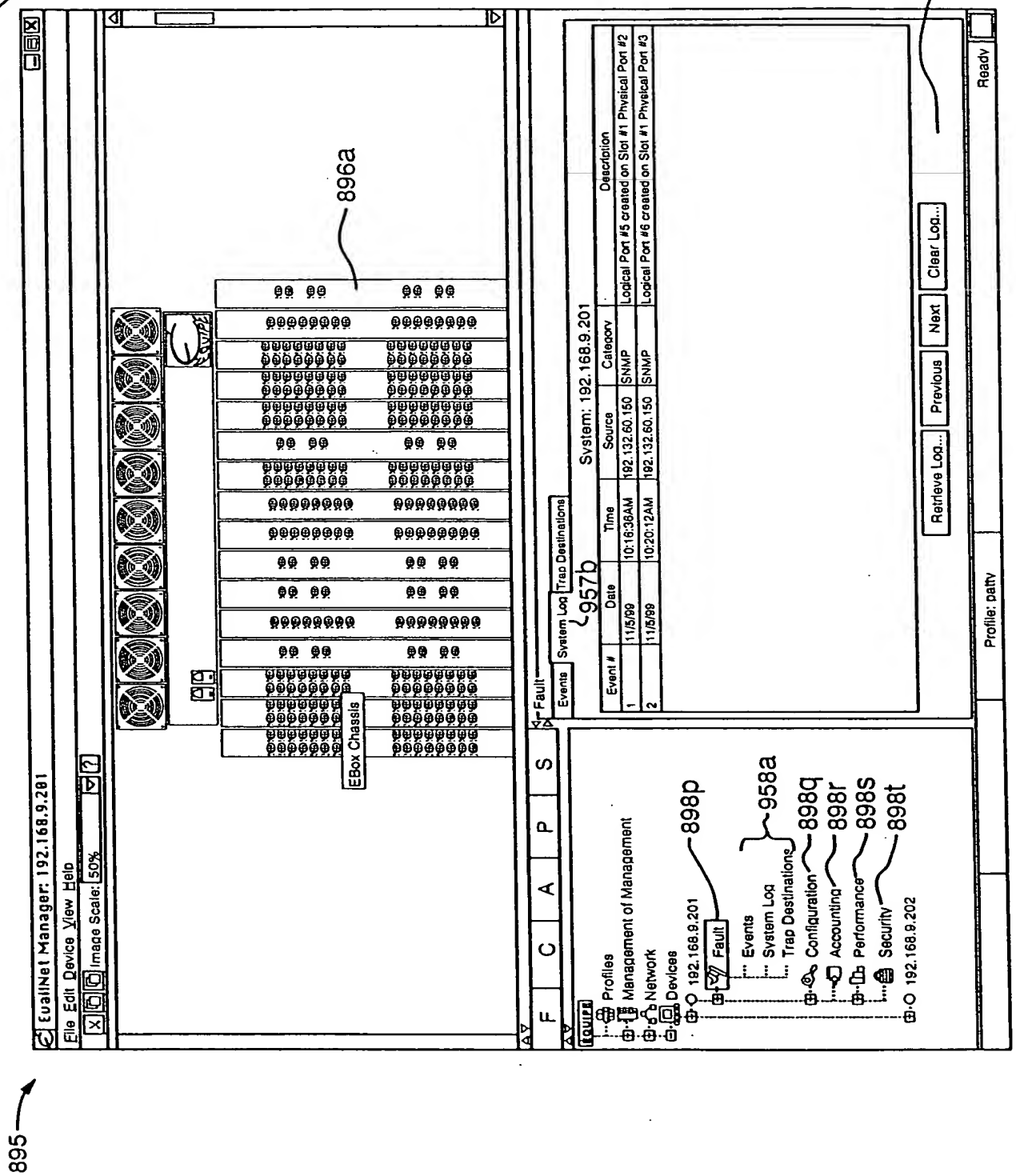


FIG. 7F

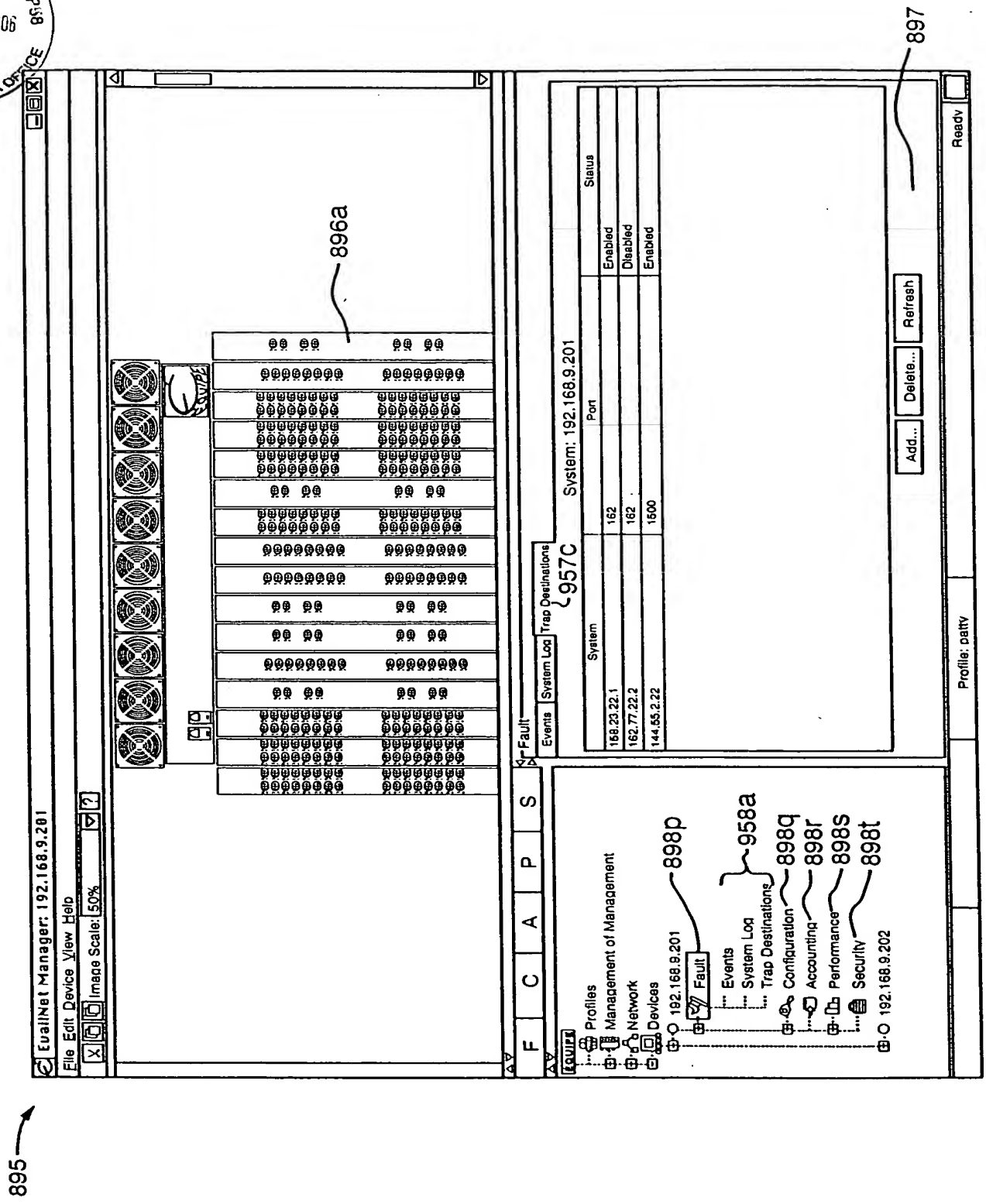


FIG. 7G

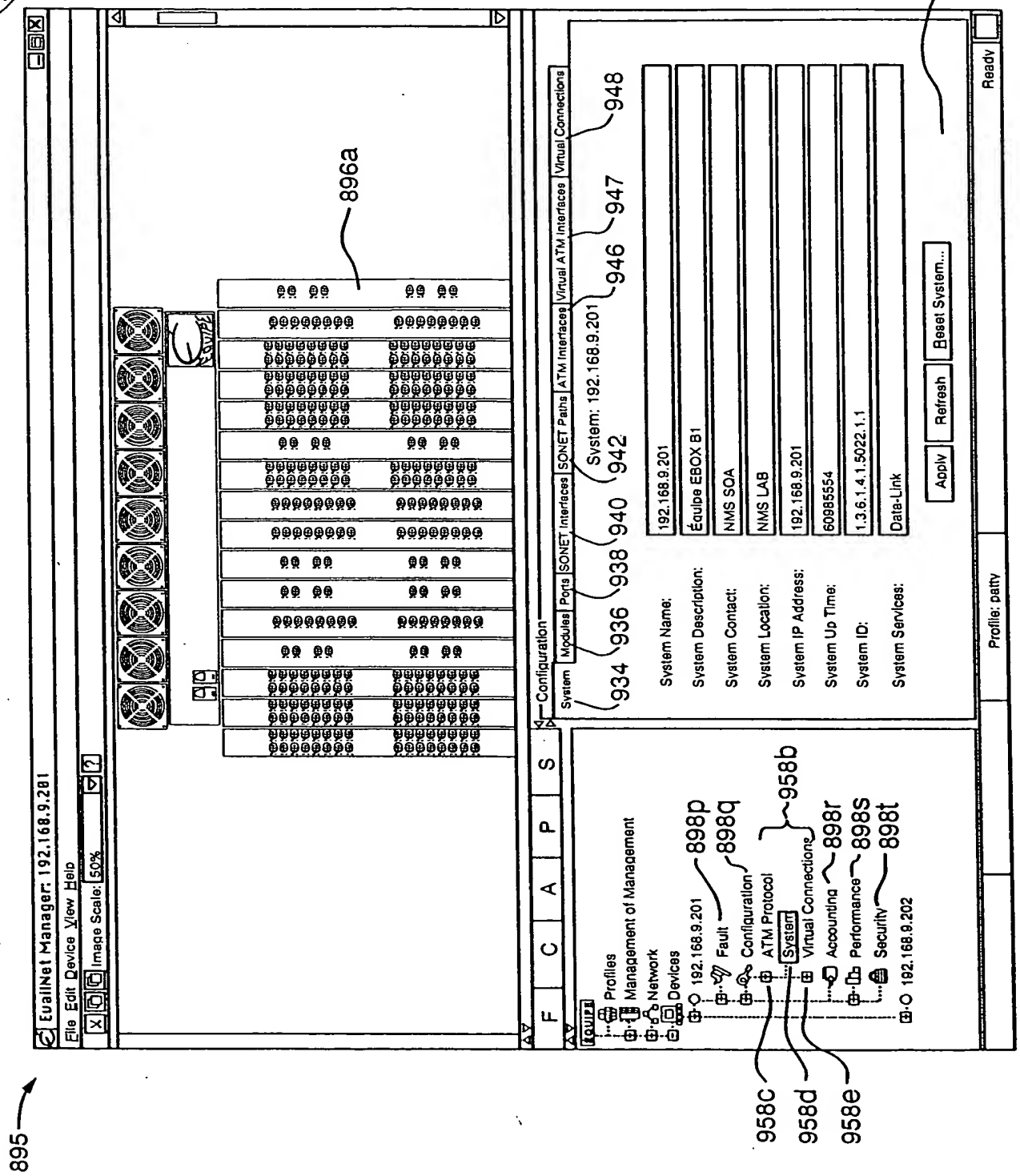


FIG. 7H

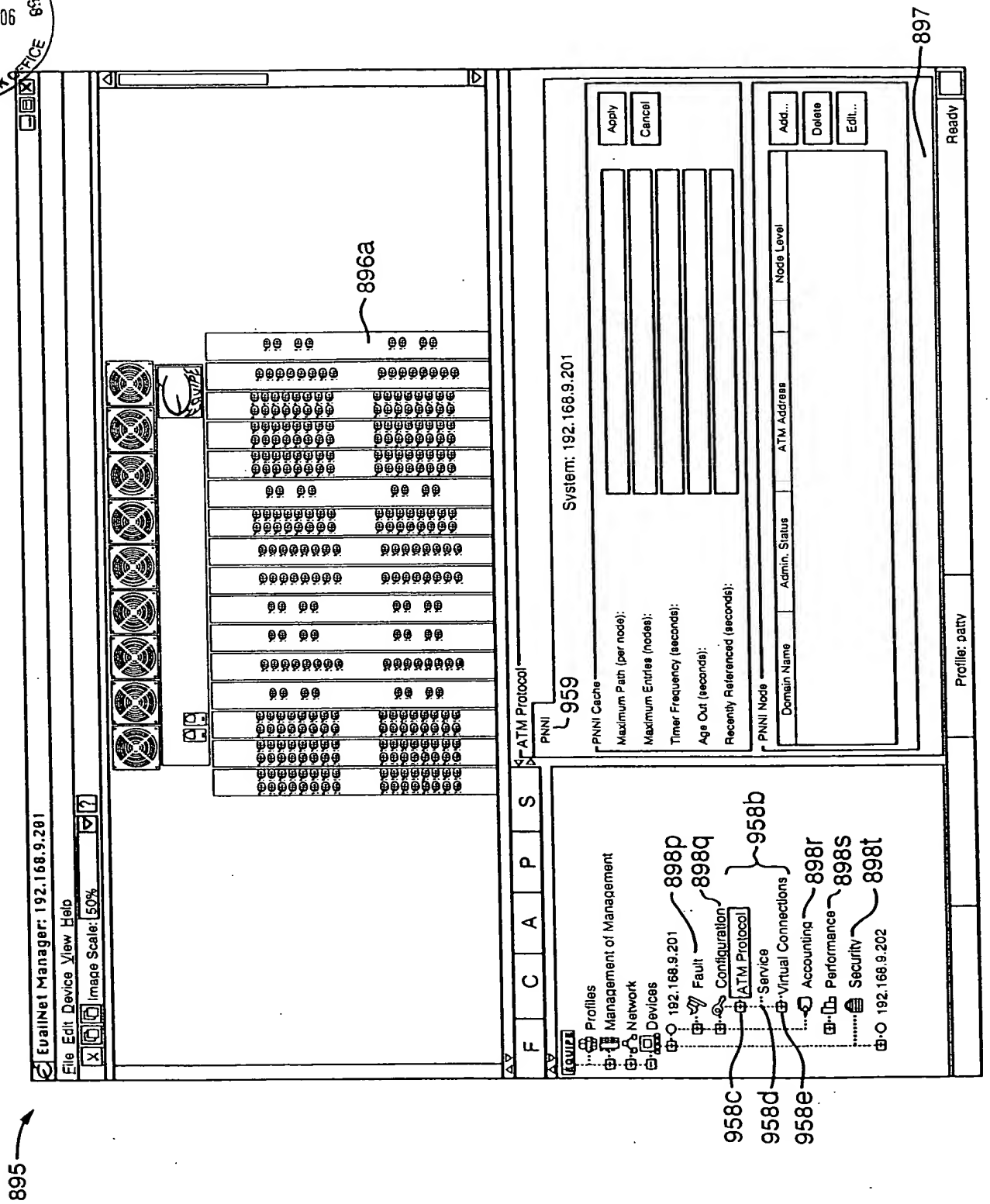


FIG. 71

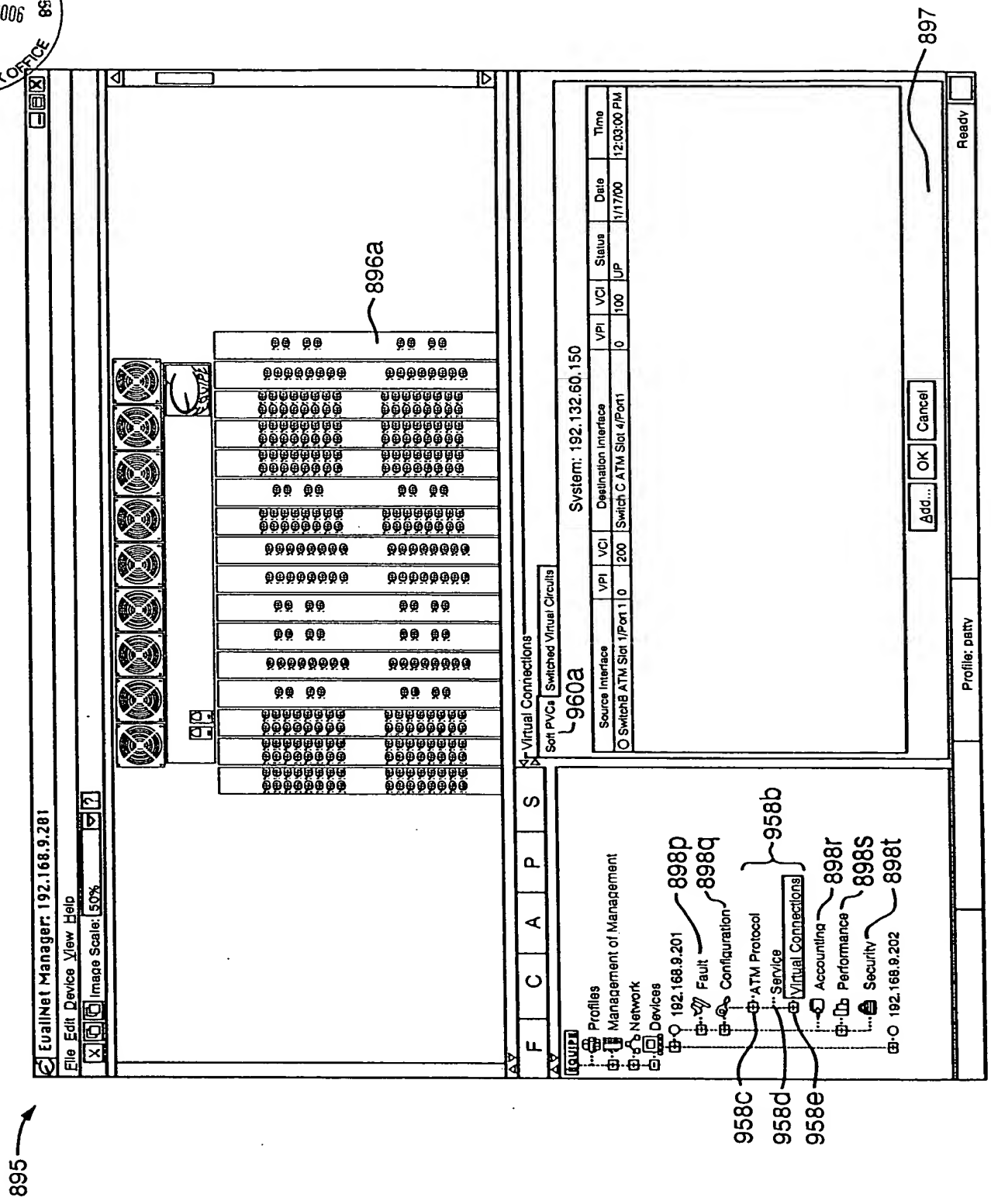


FIG. 7J

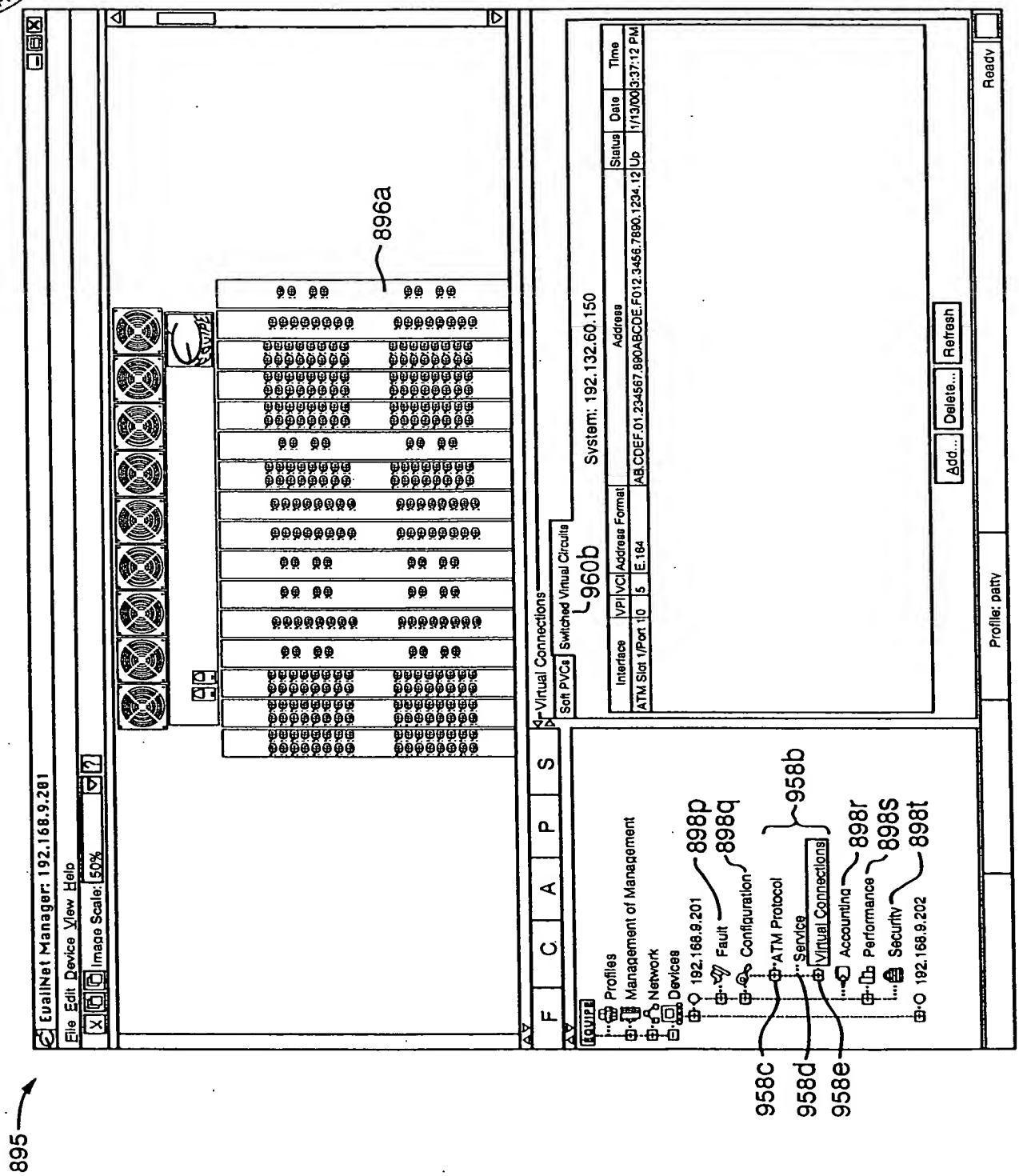


FIG. 7K

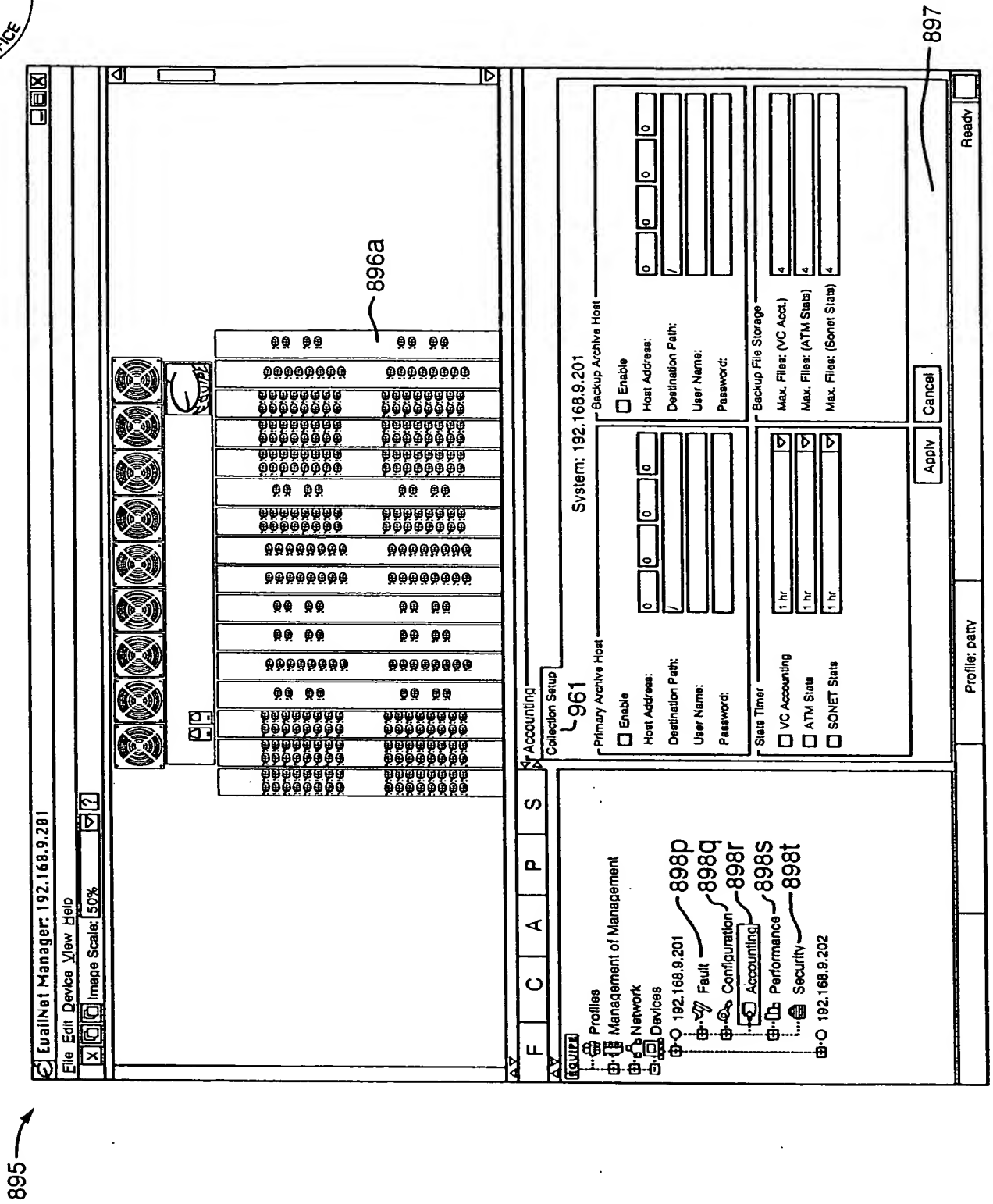


FIG. 7L

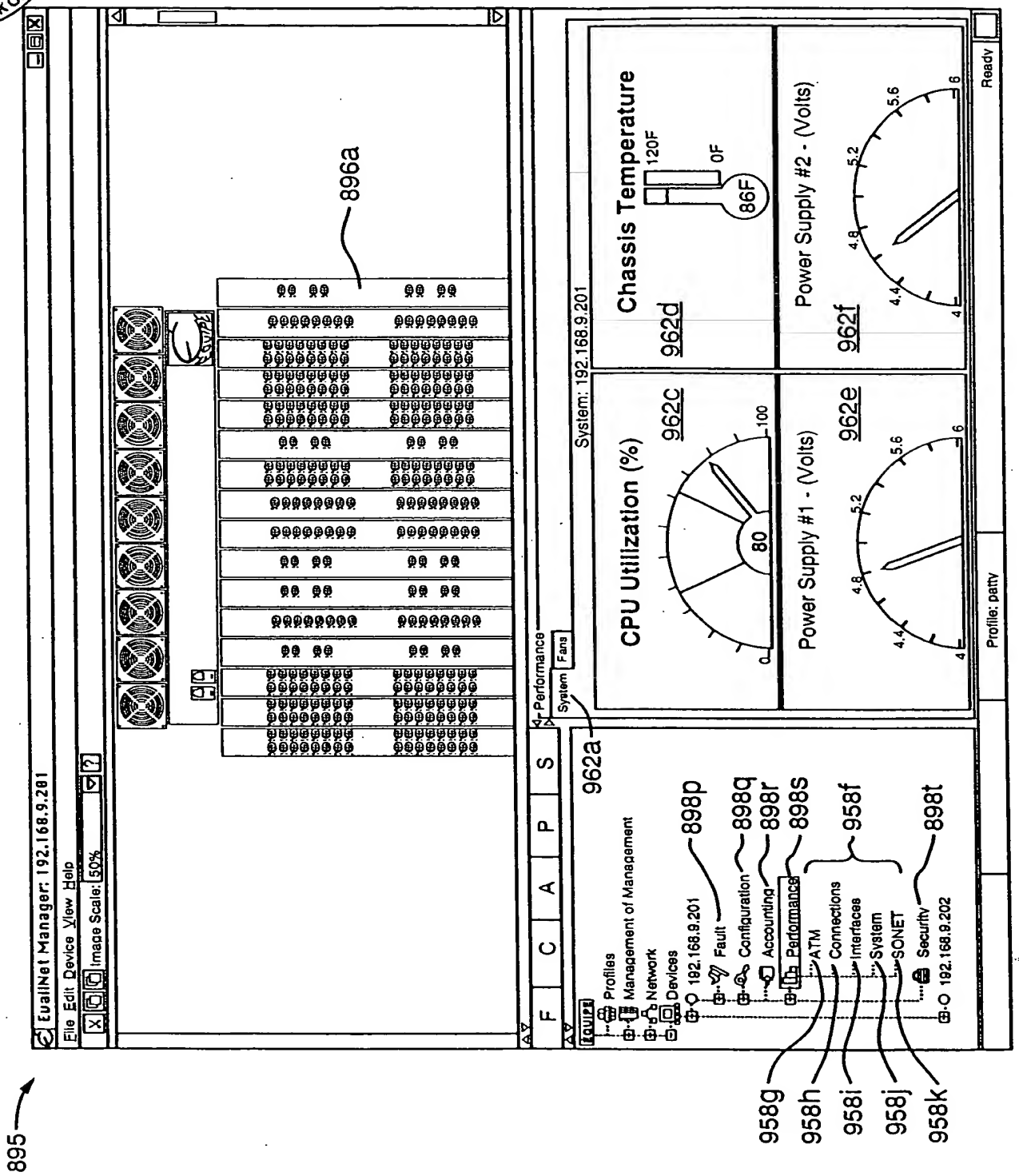


FIG. 7M

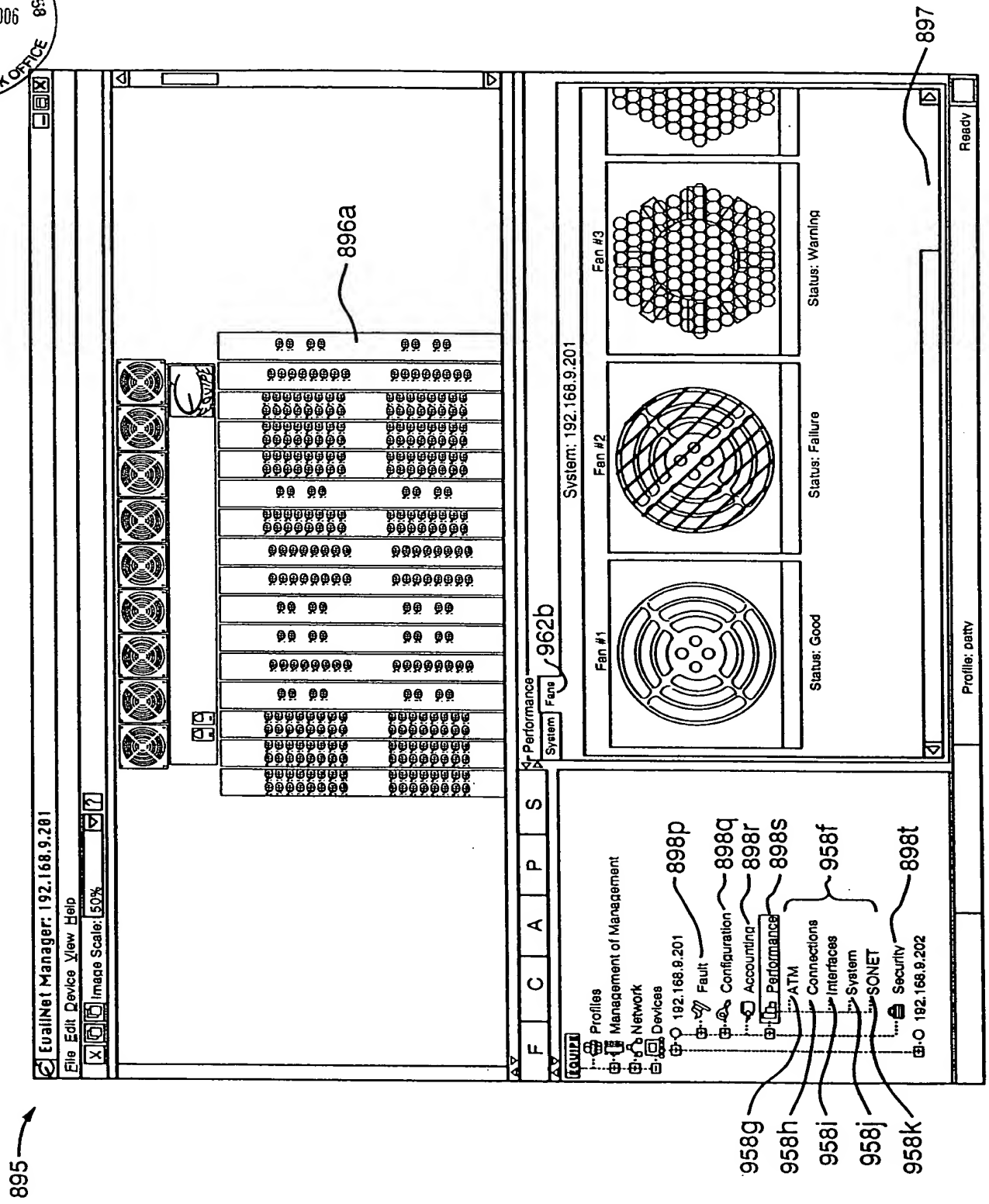


FIG. 7N

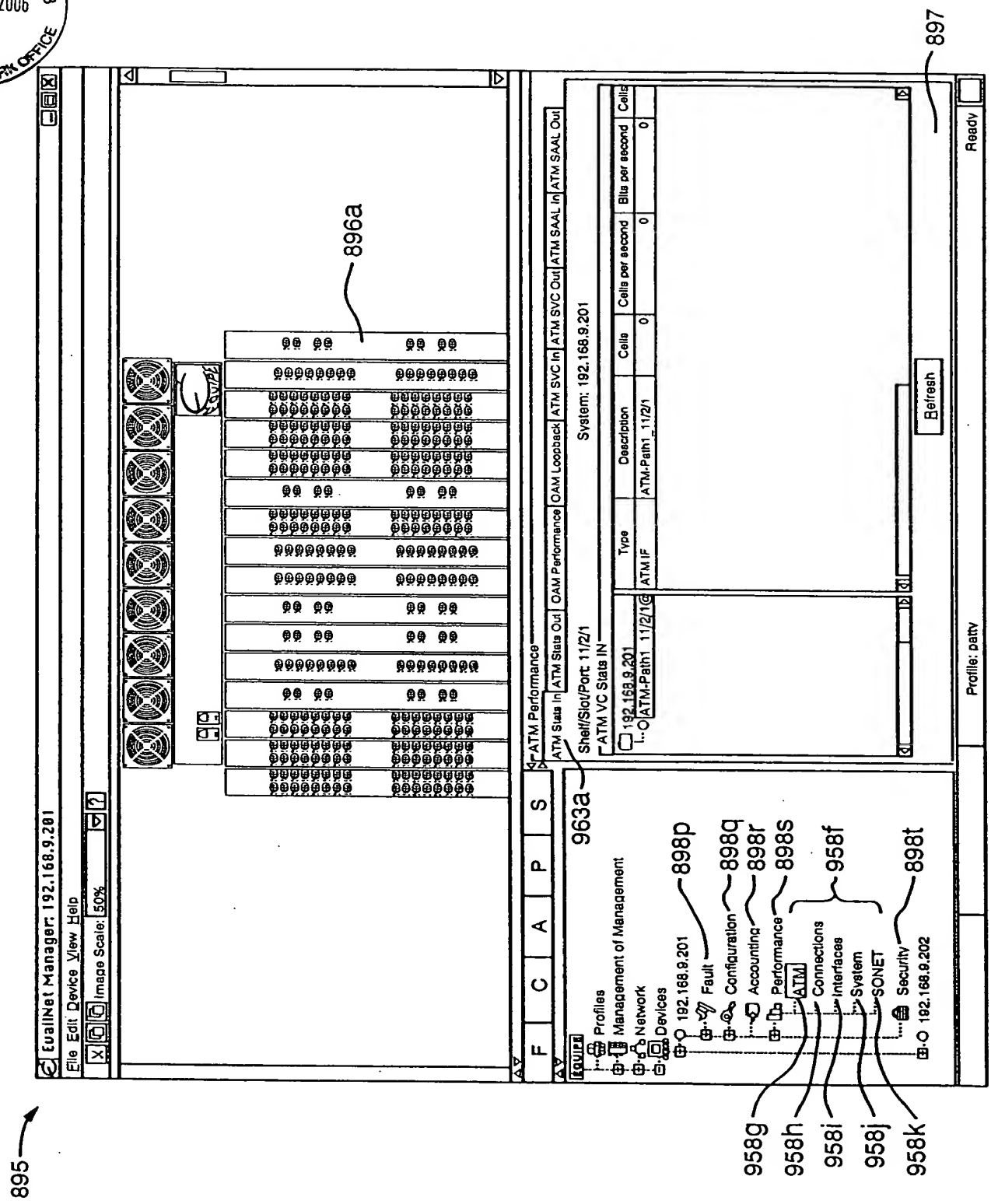


FIG. 7O

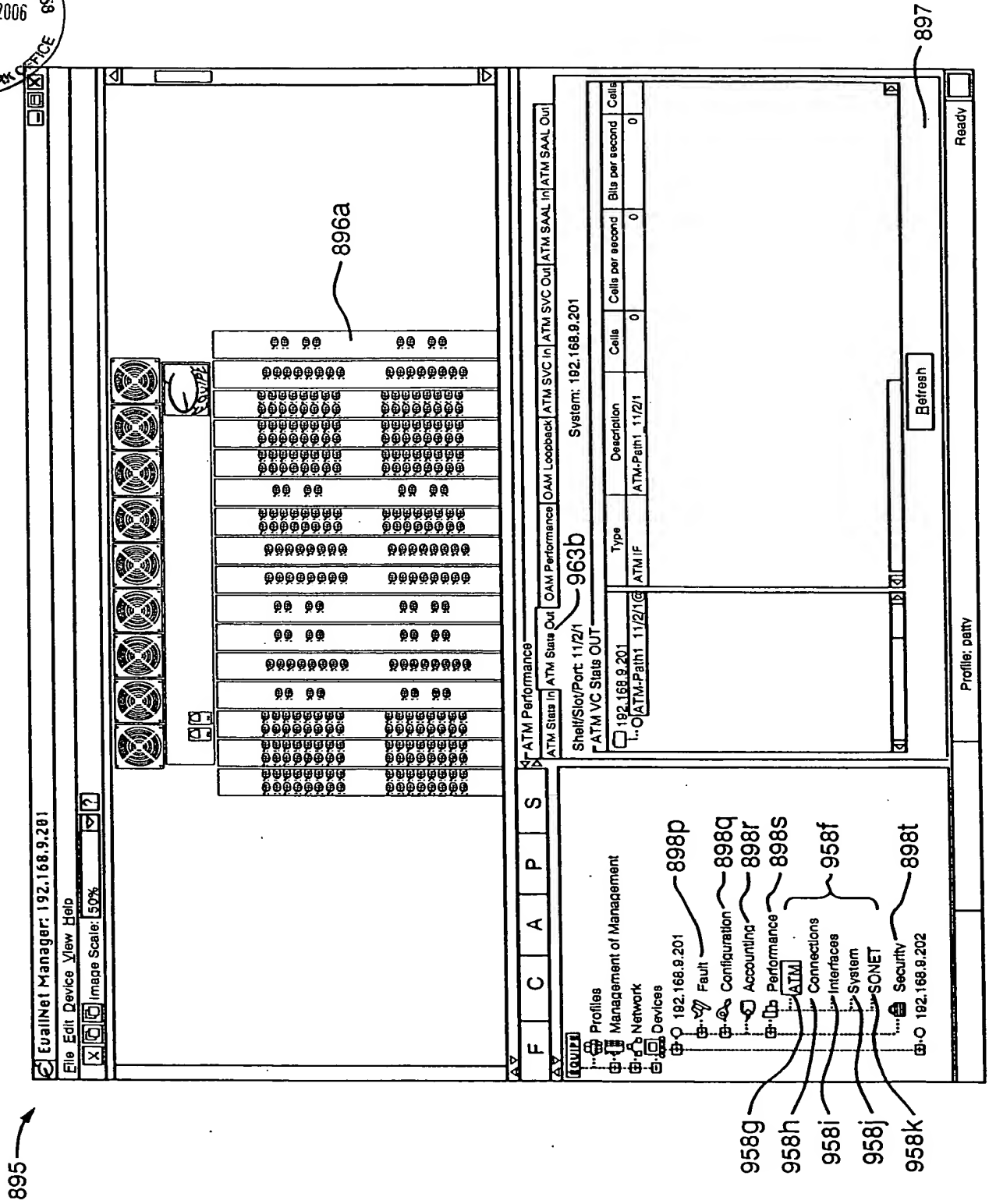


FIG. 7P

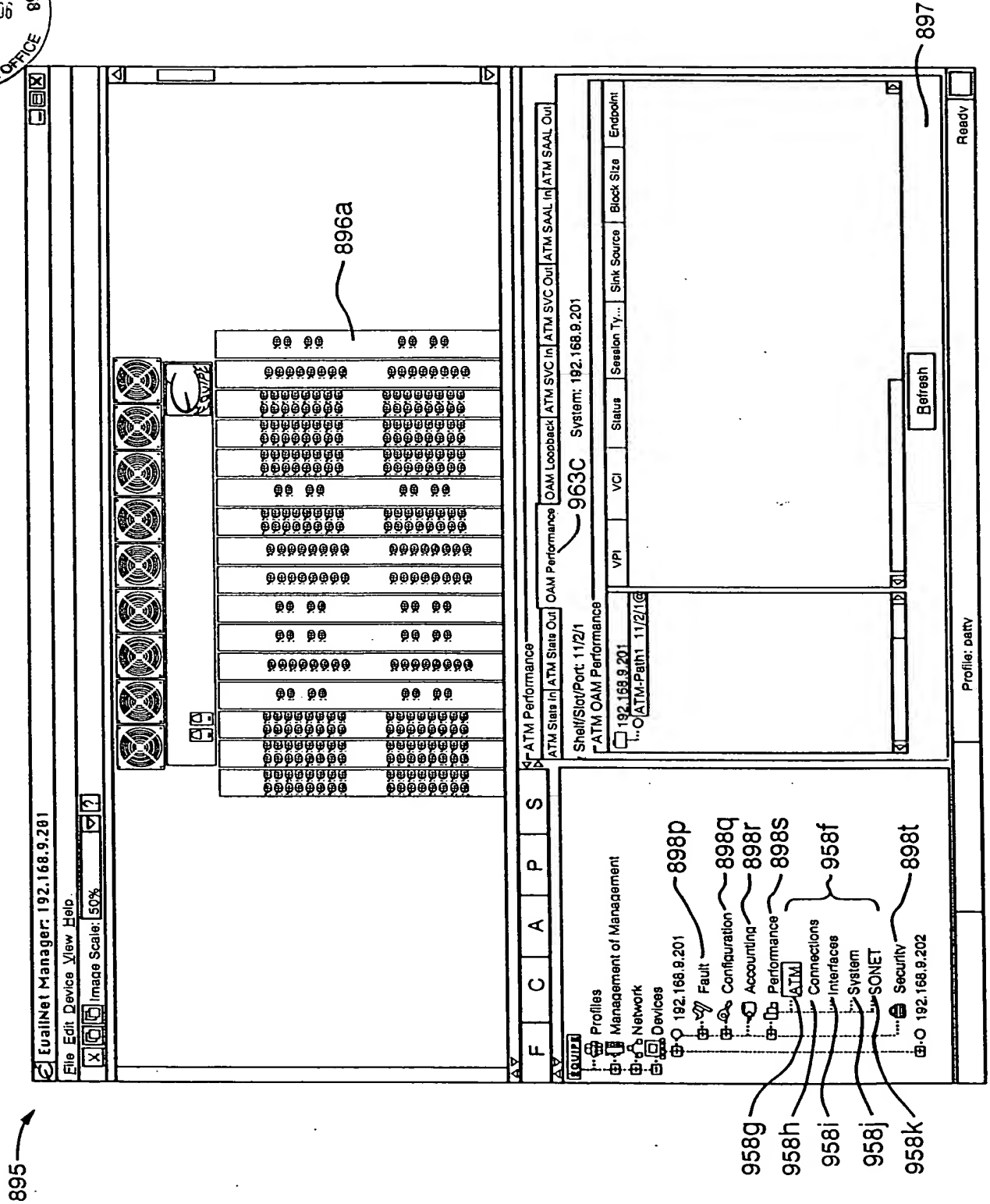


FIG. 7Q

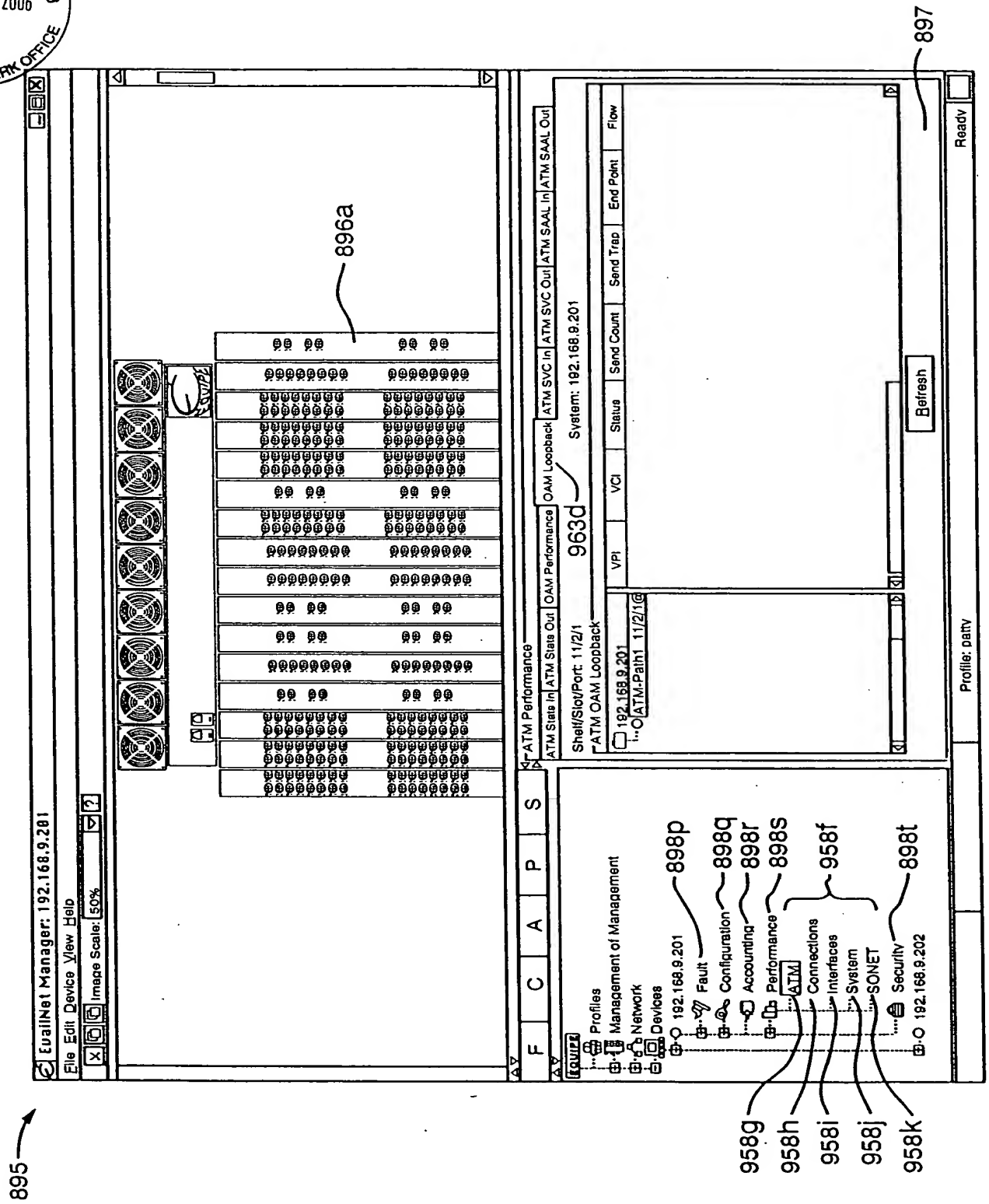


FIG. 7R

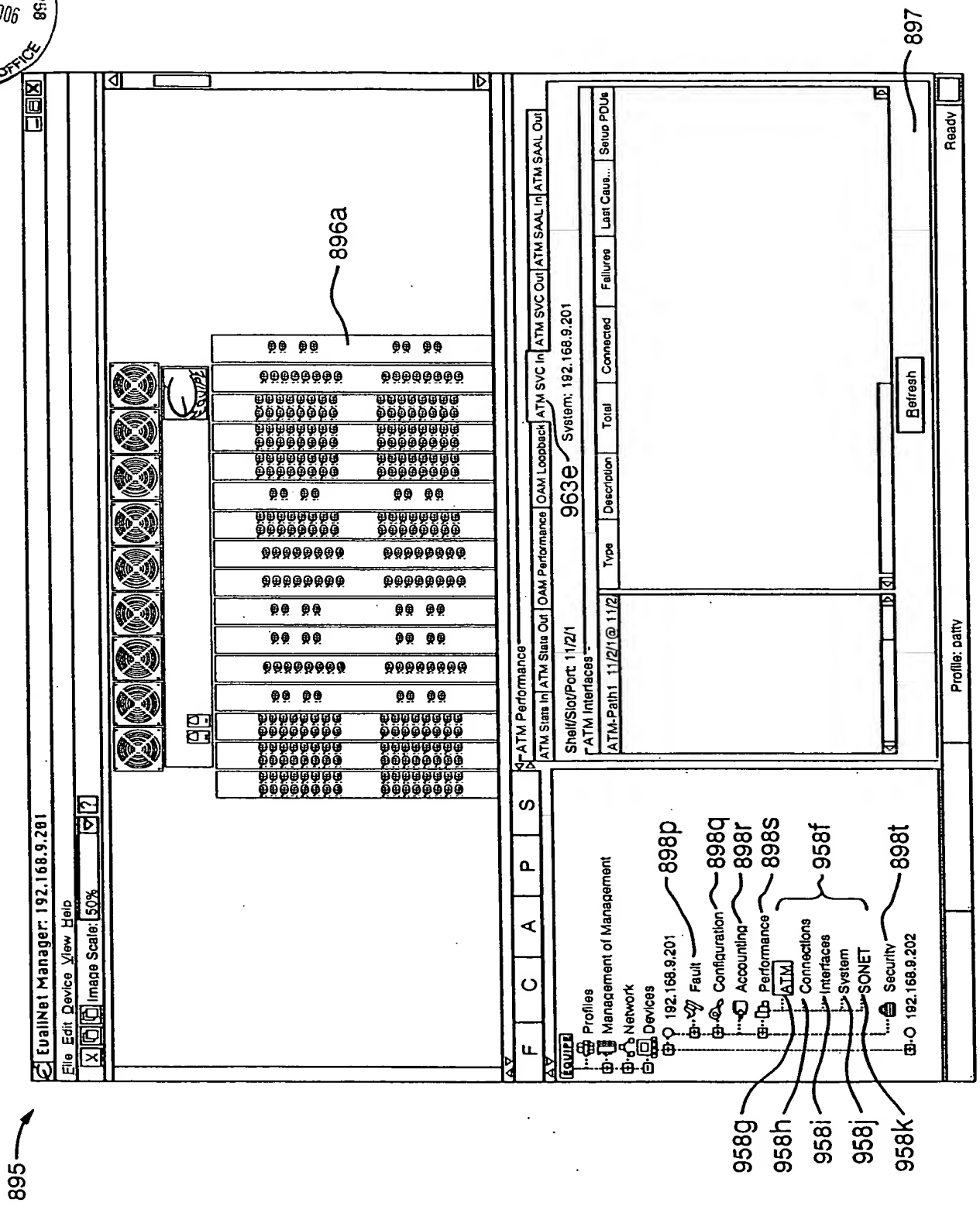


FIG. 7S

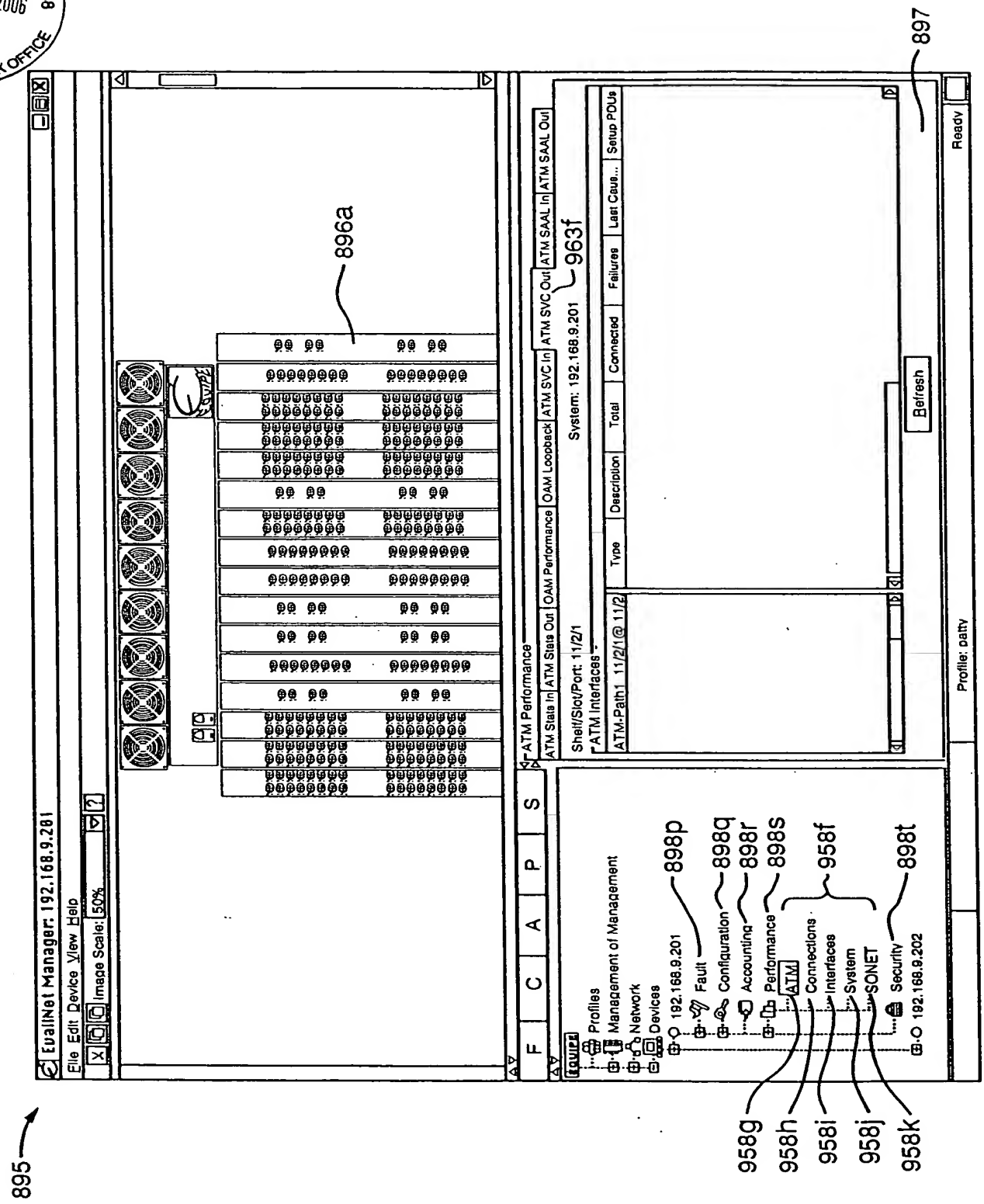


FIG. 7T

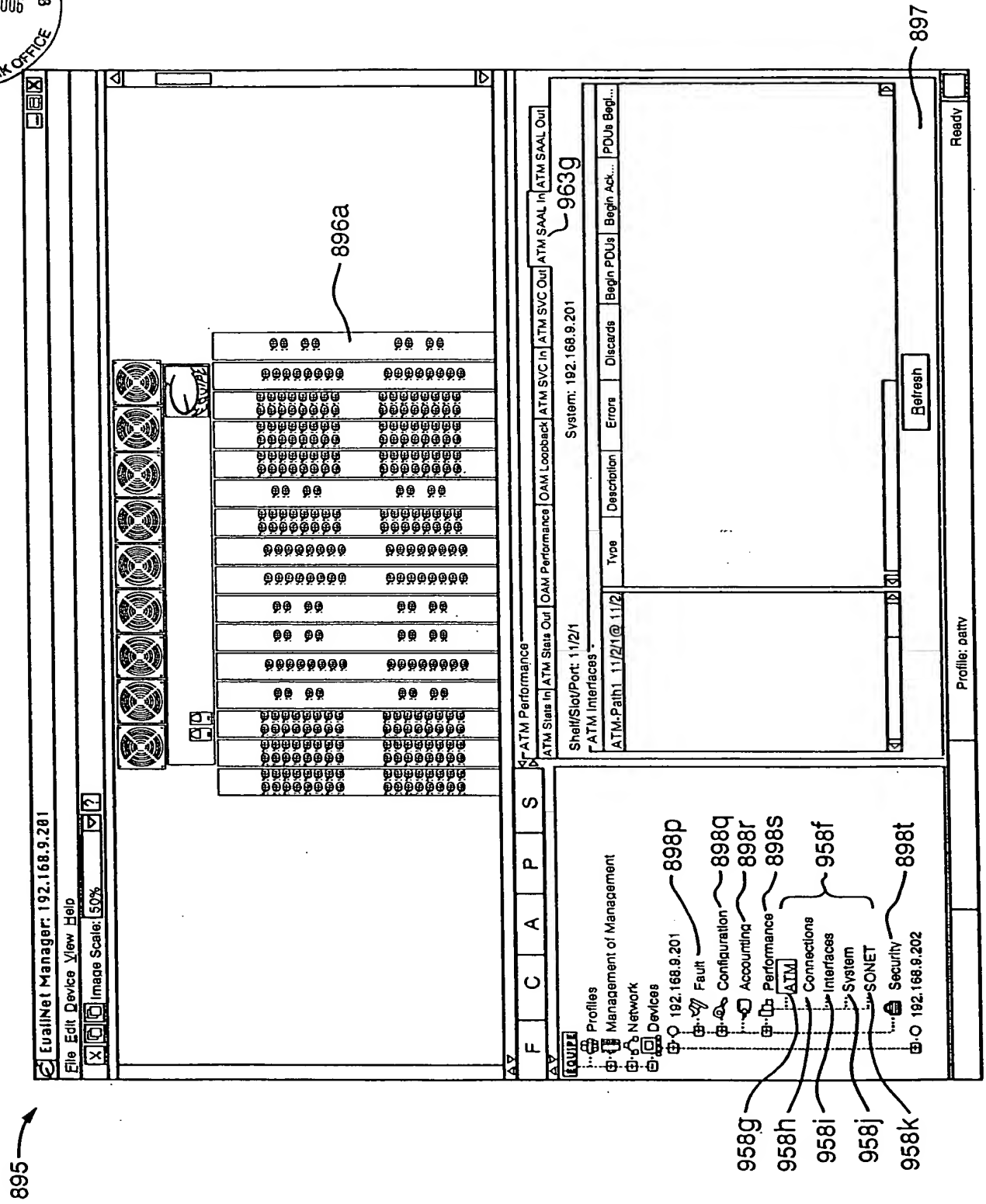


FIG. 7U

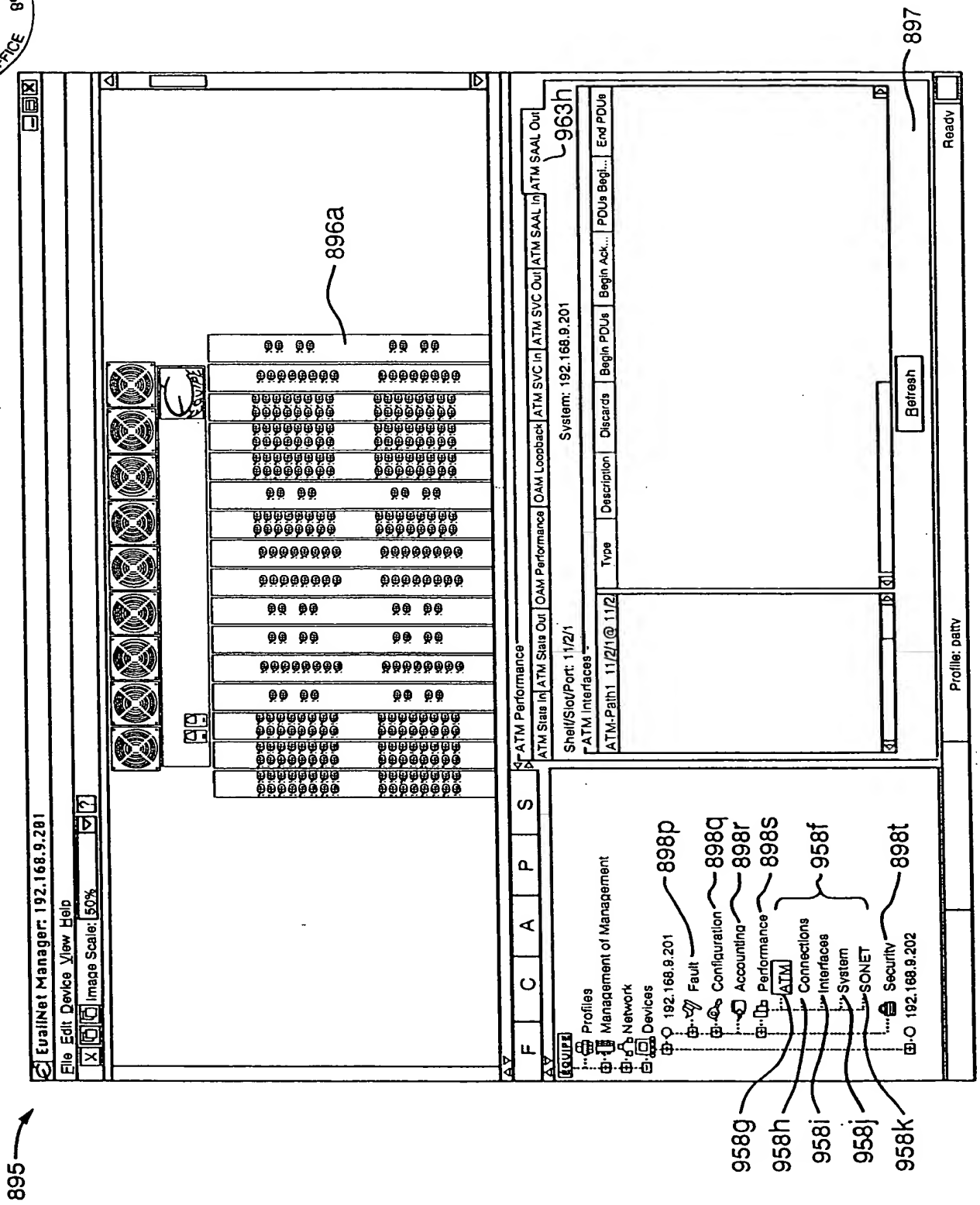


FIG. 7V

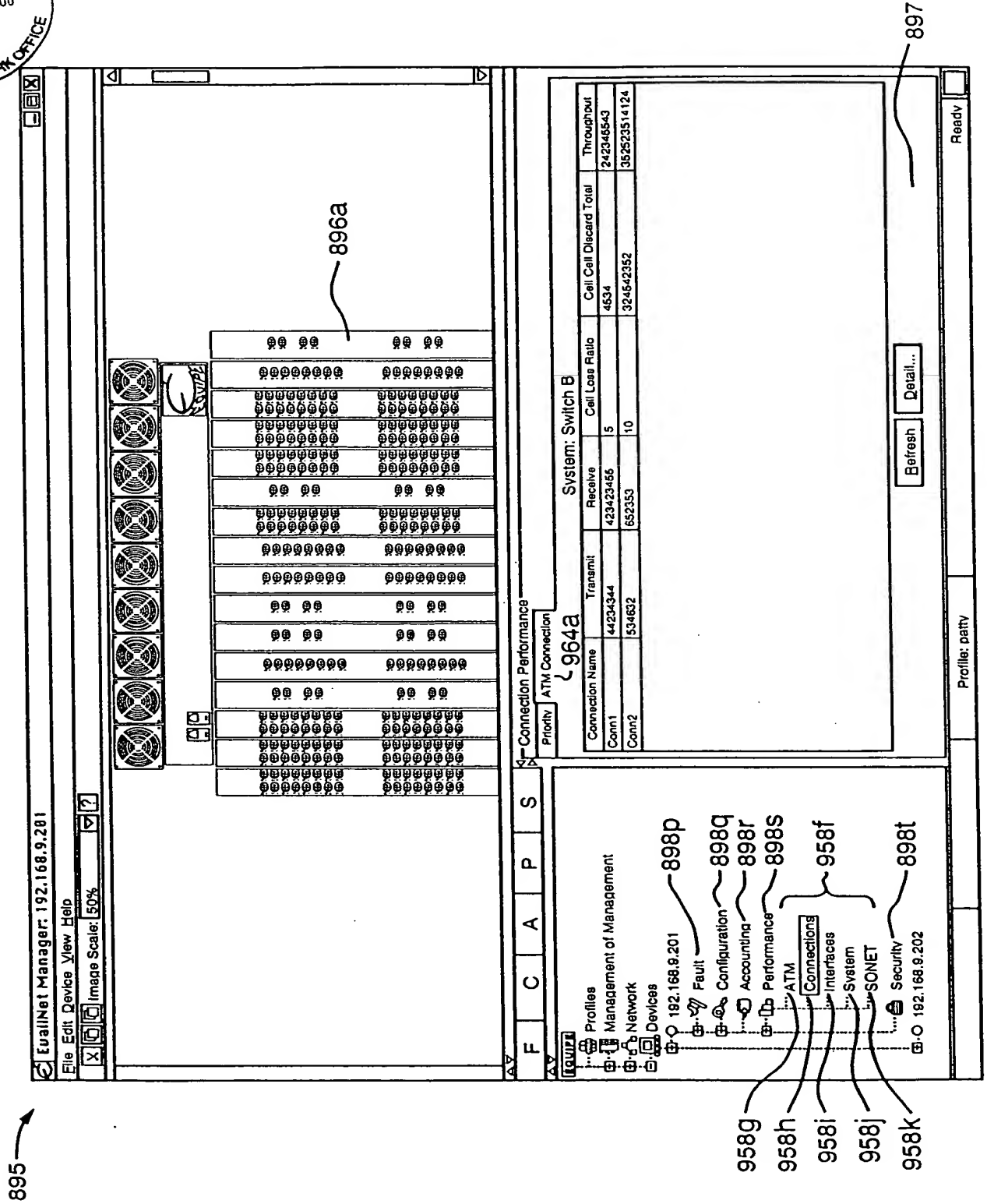


FIG. 7W

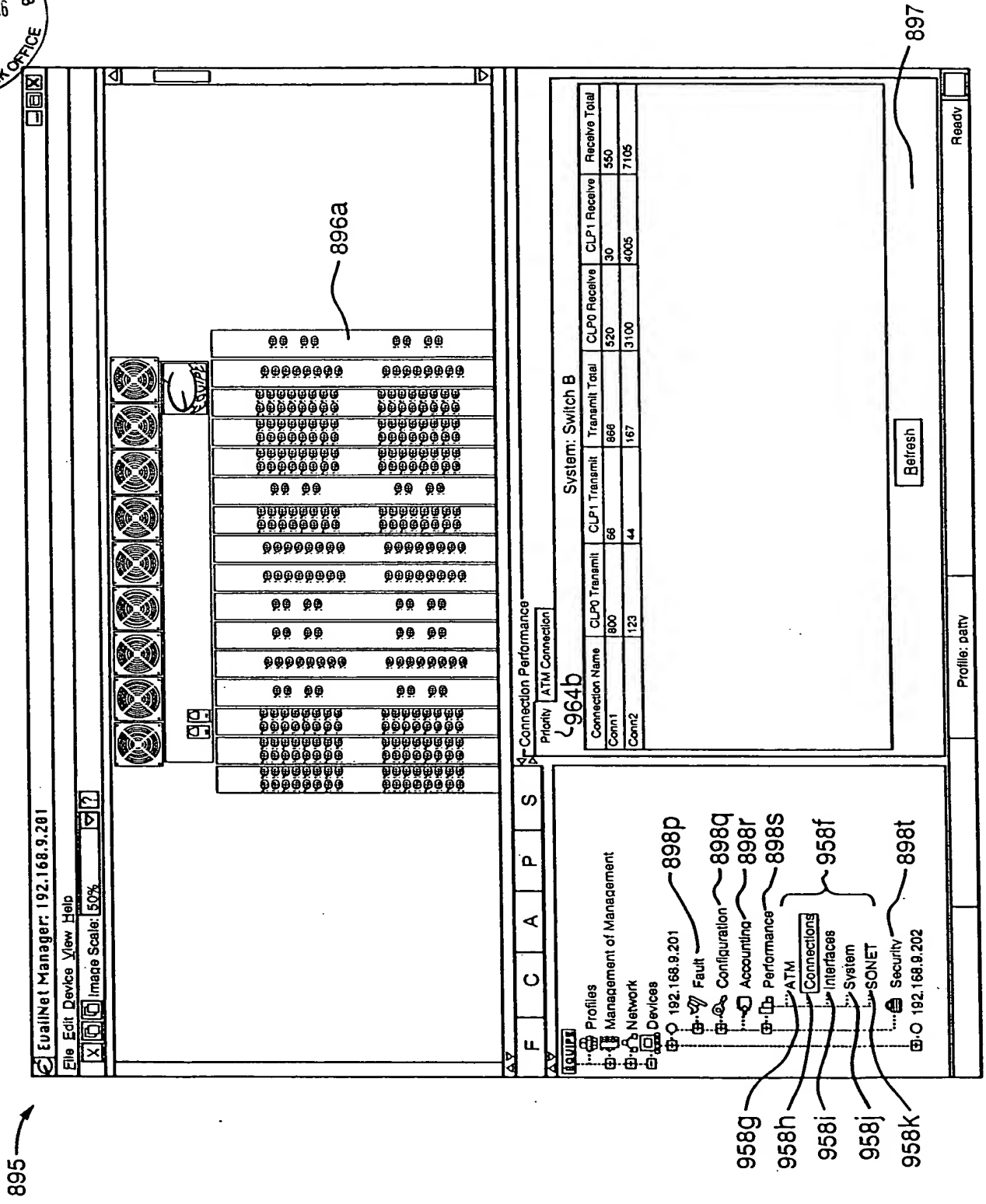


FIG. 7X

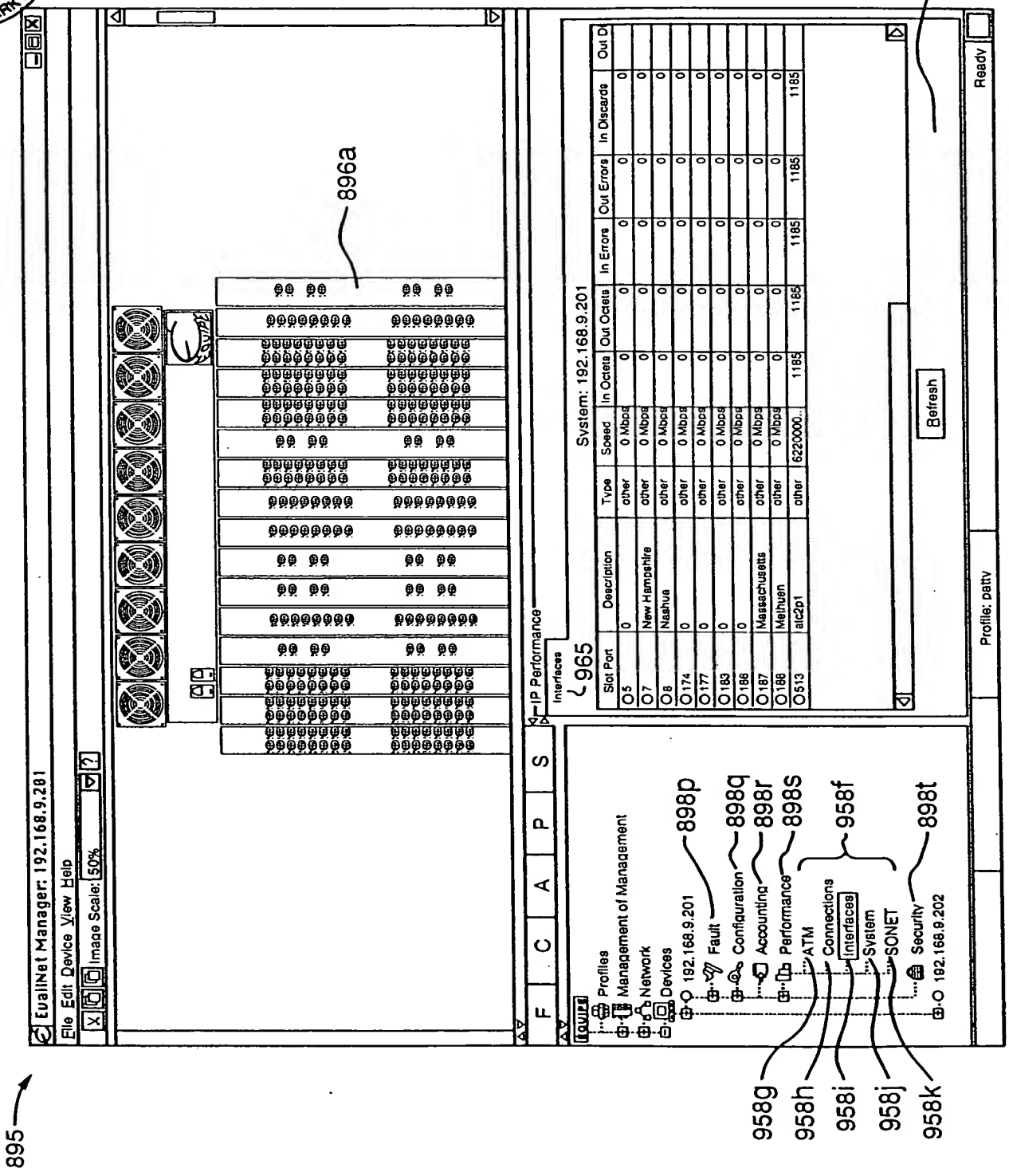


FIG. 7Y

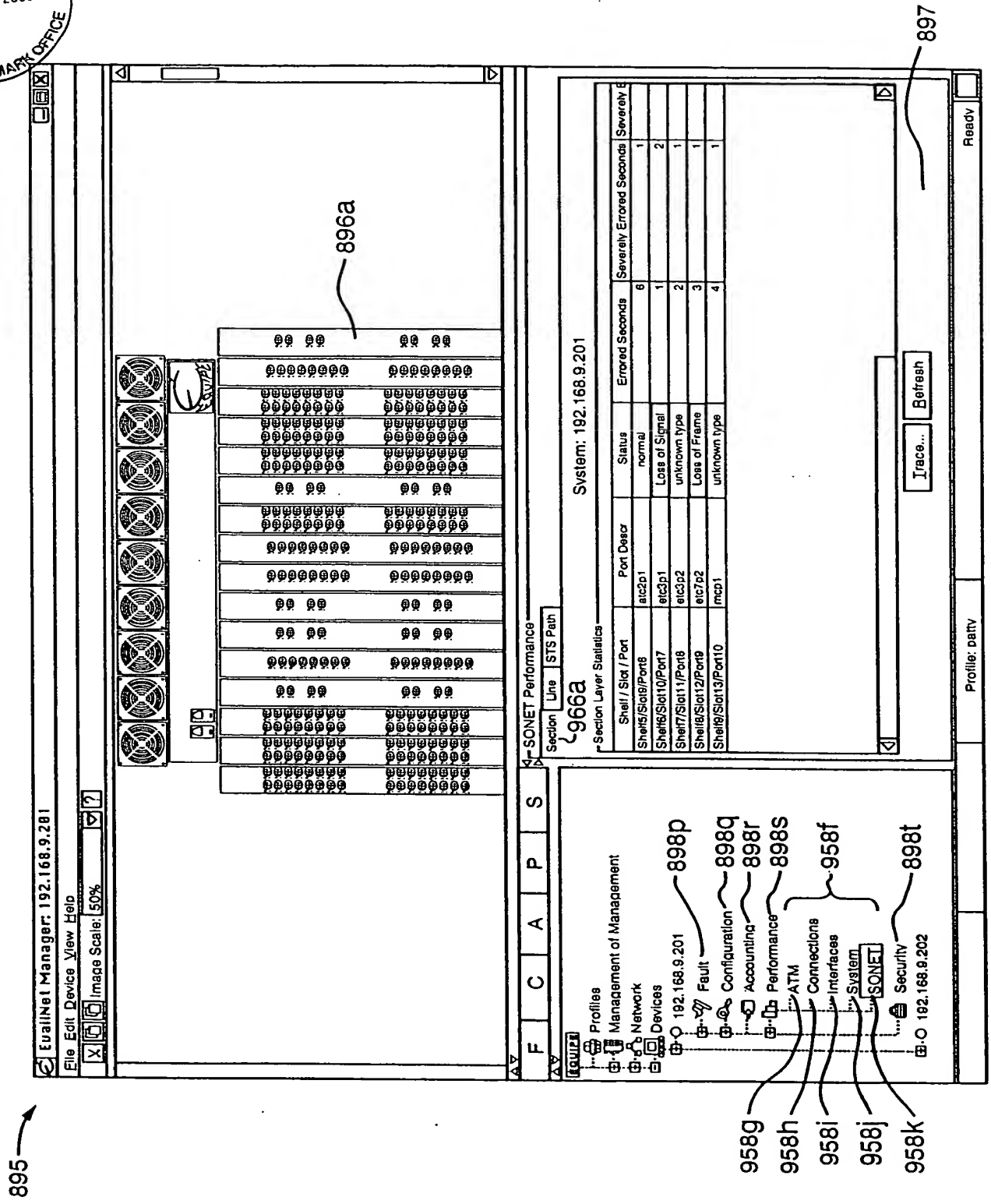


FIG. 8A

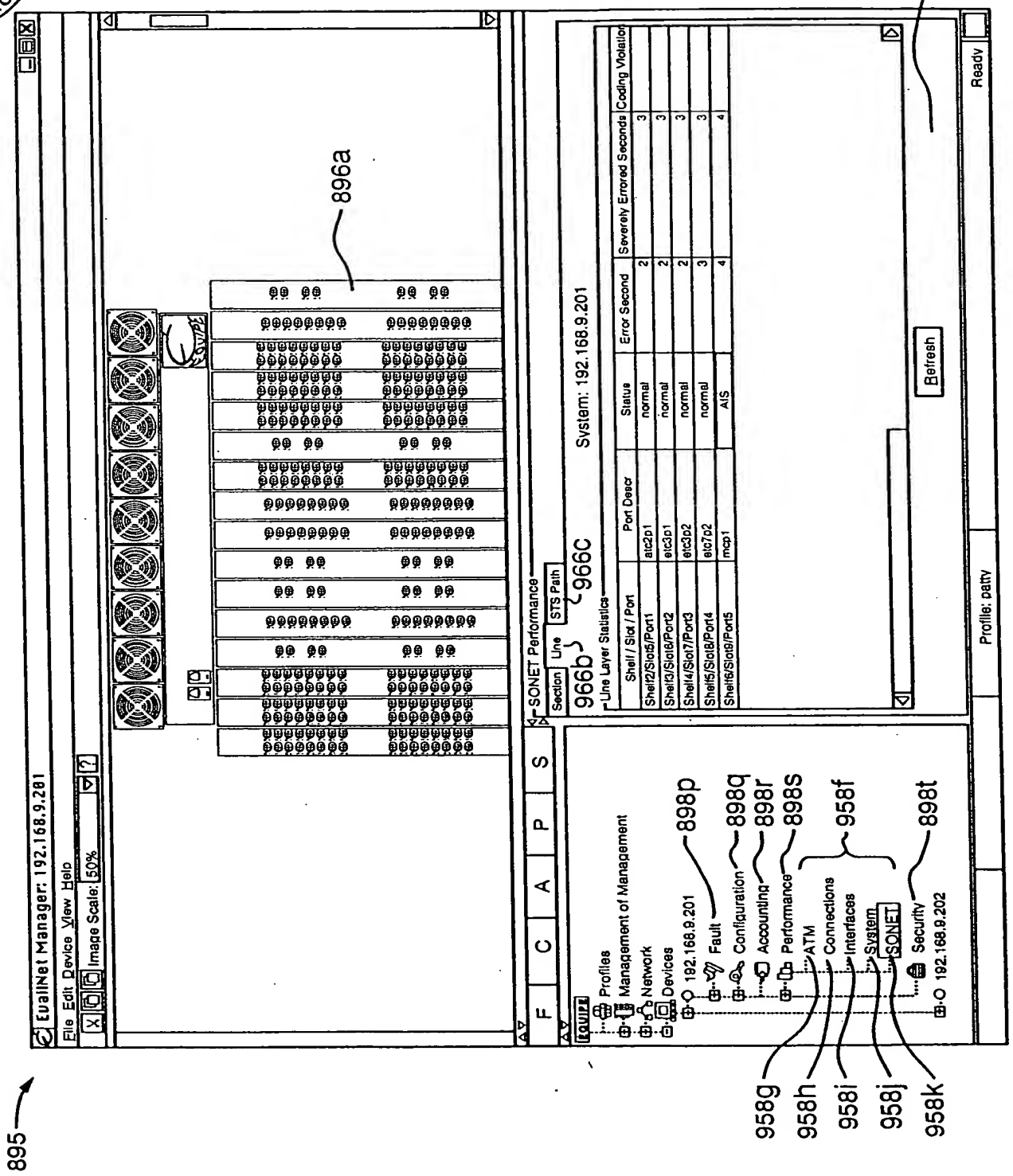


FIG. 8B

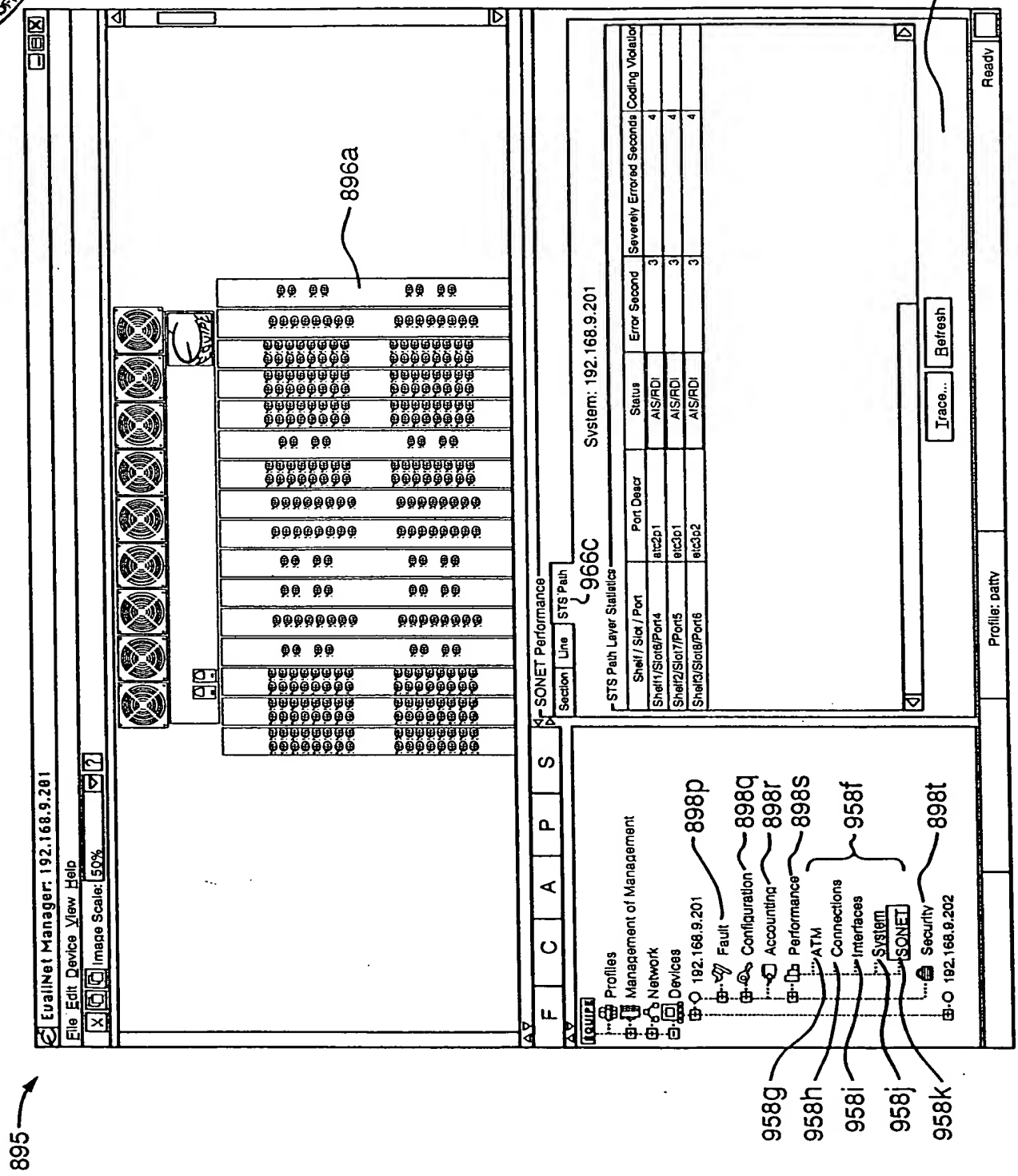


FIG. 8C

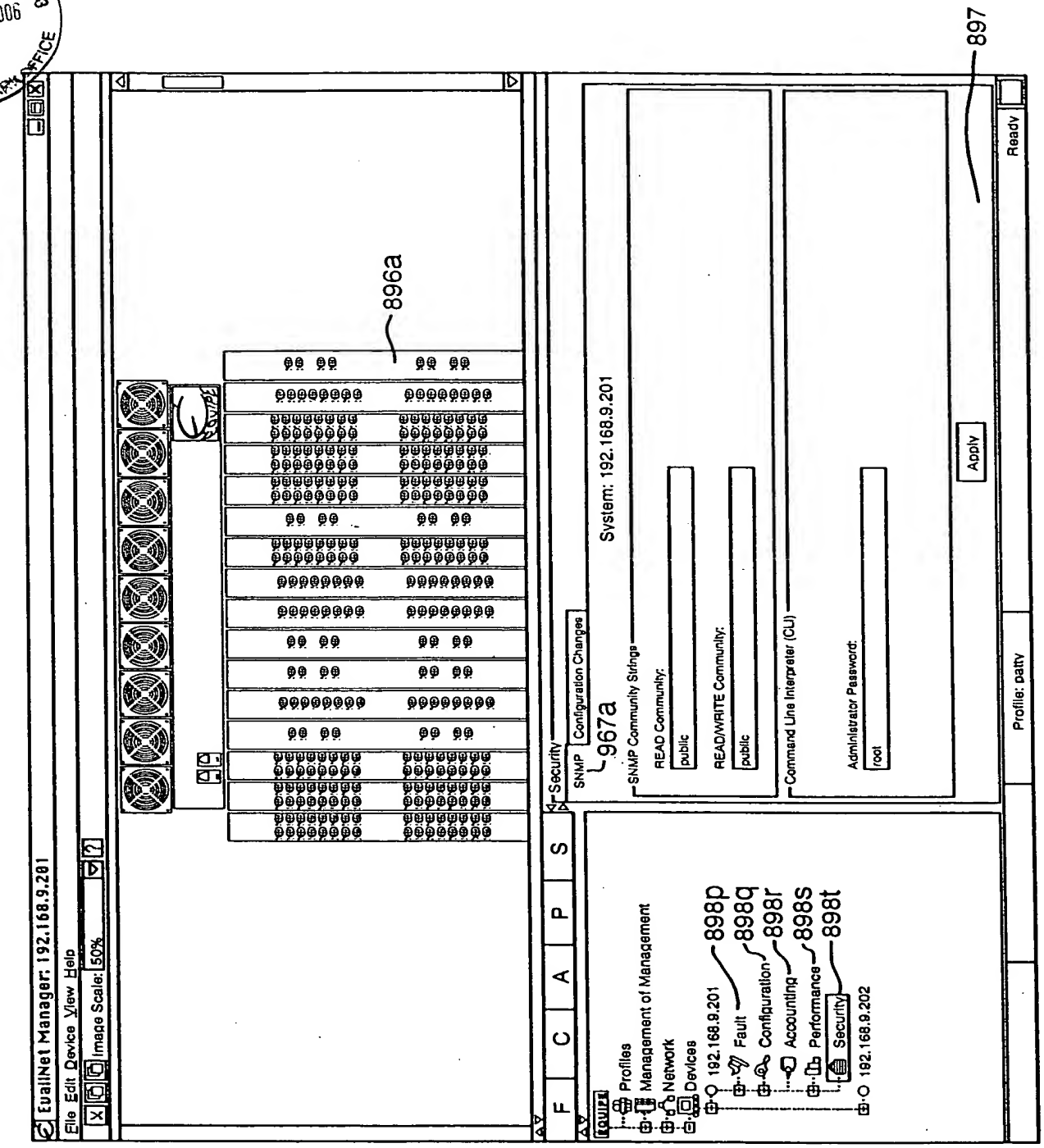


FIG. 8D

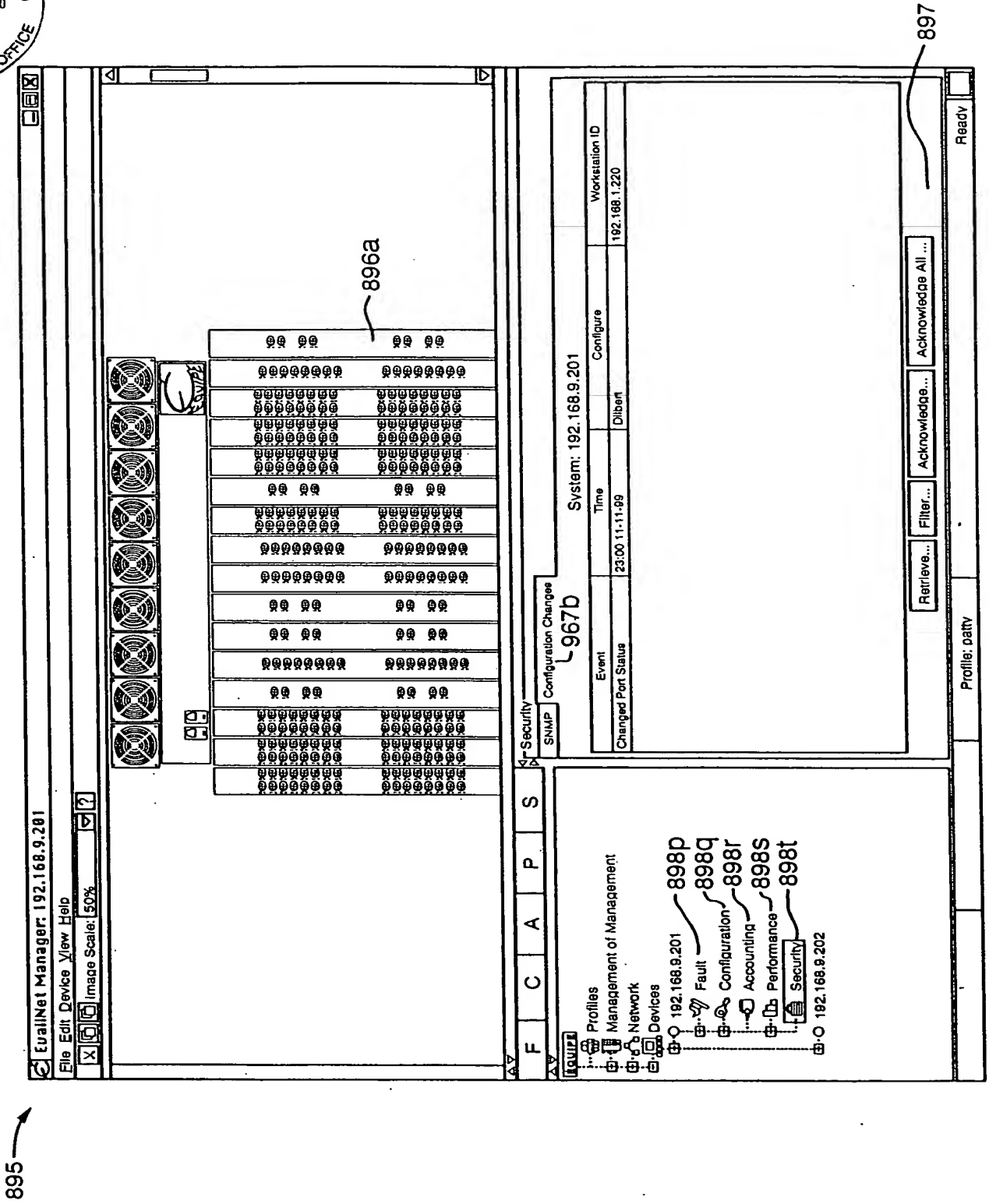


FIG. 8E

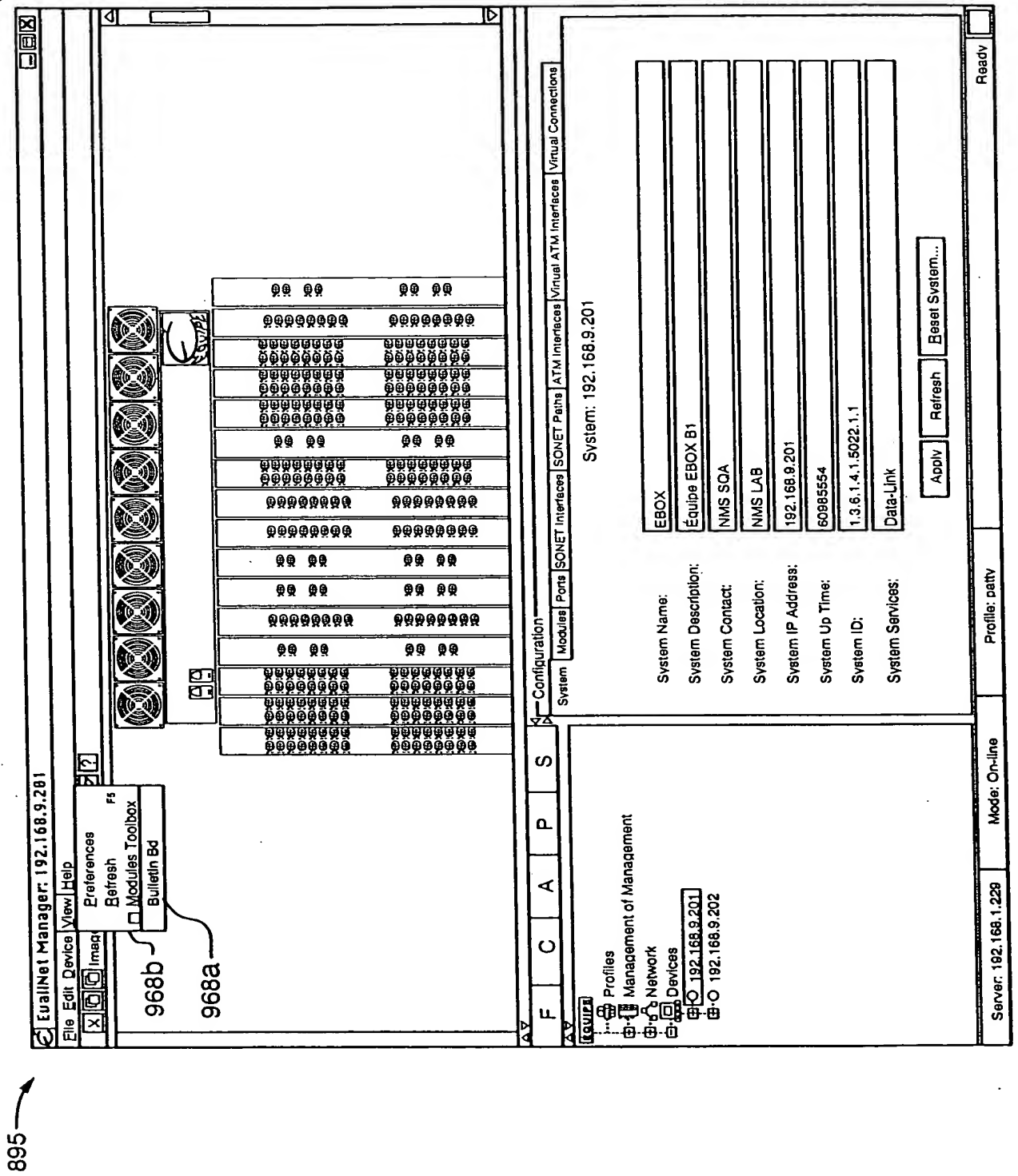


FIG. 9A

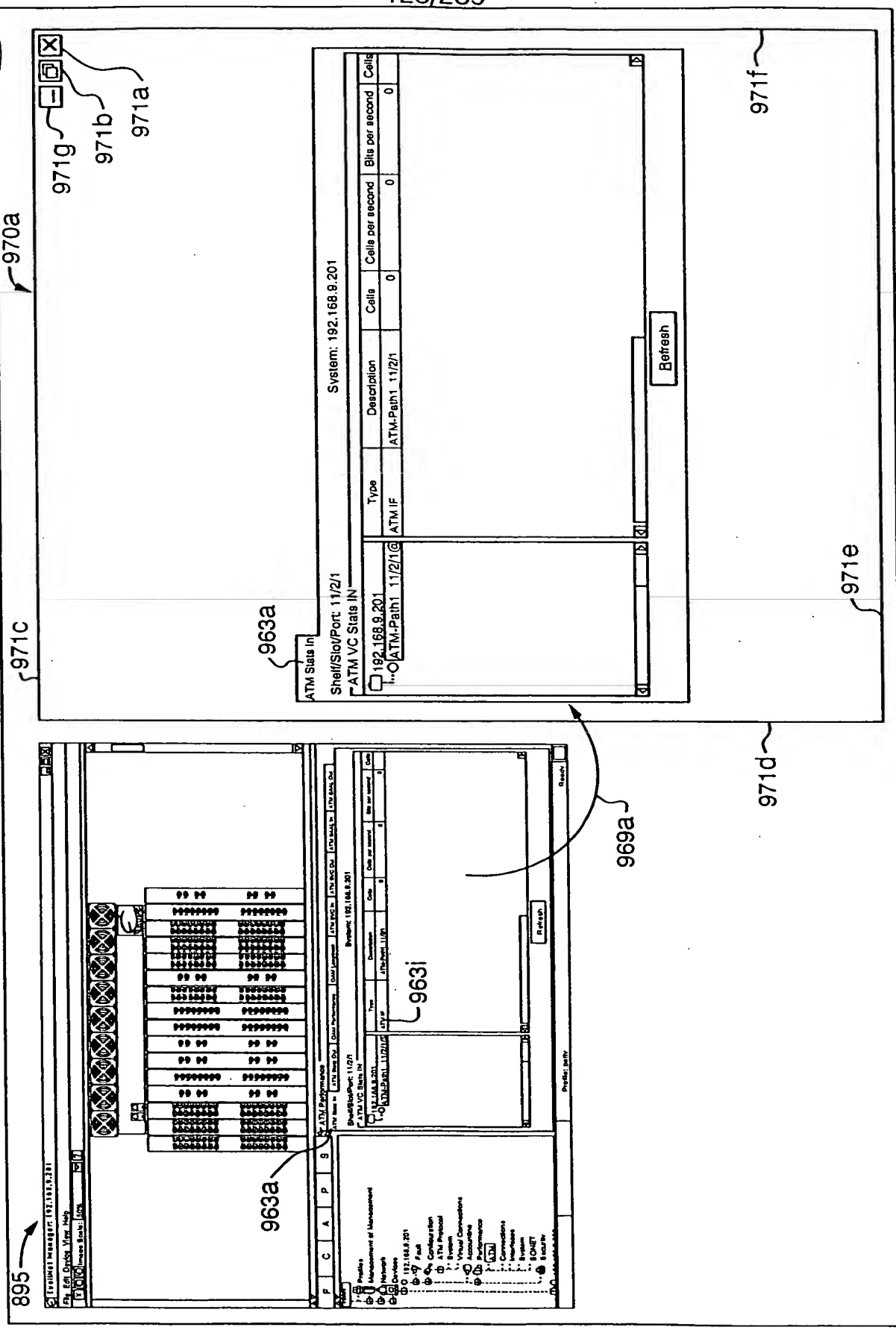


FIG. 9B

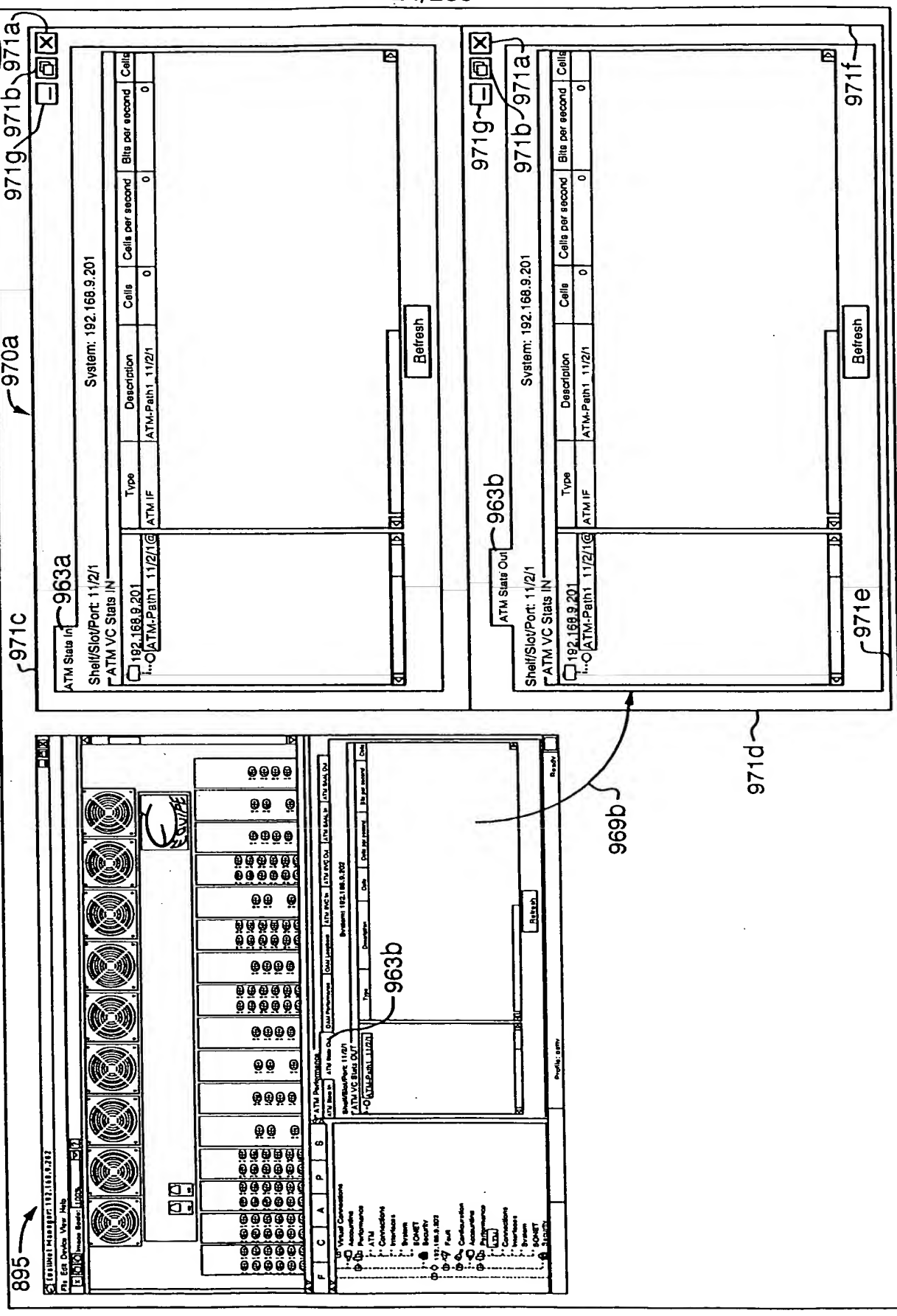


FIG. 9C

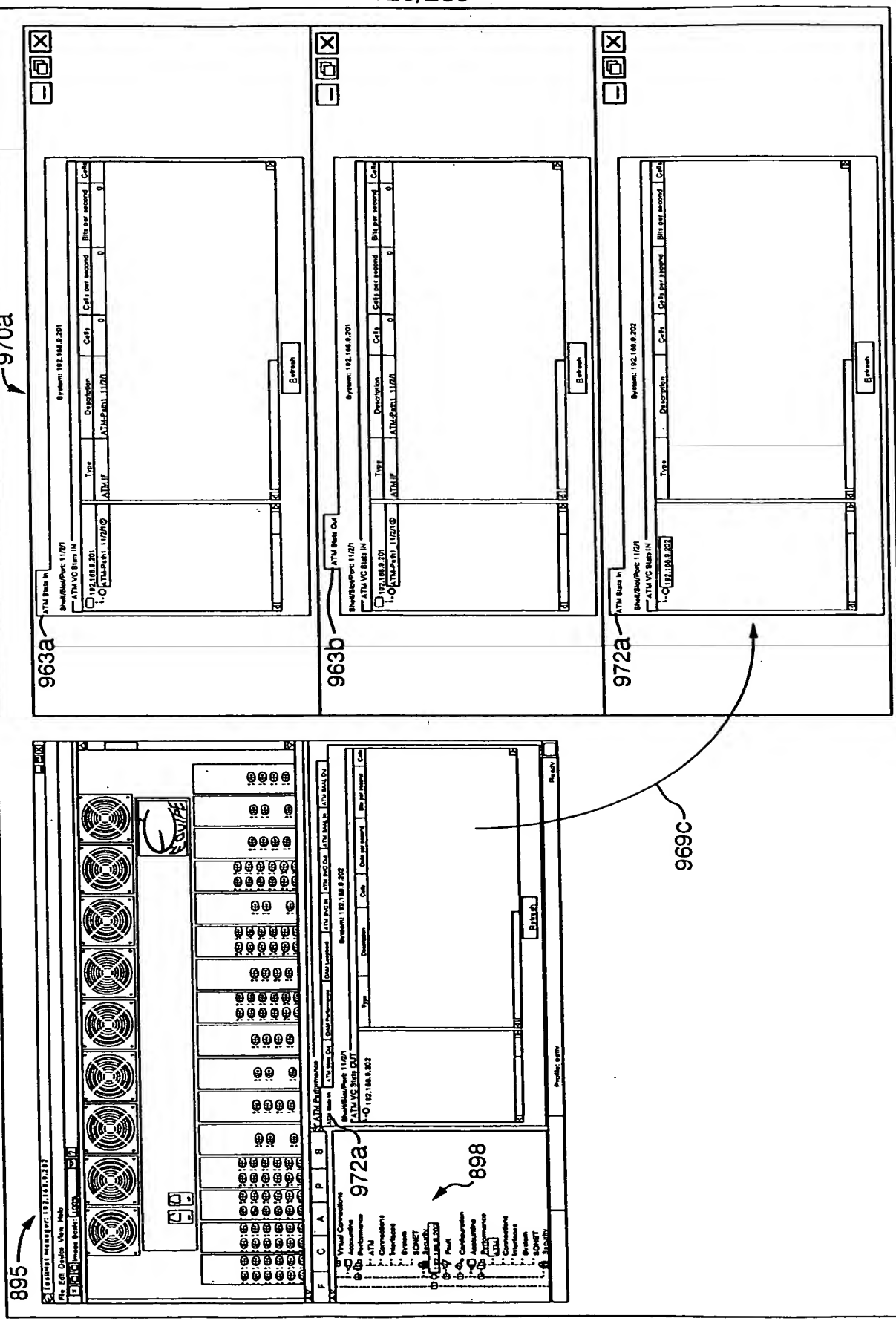


FIG. 9D

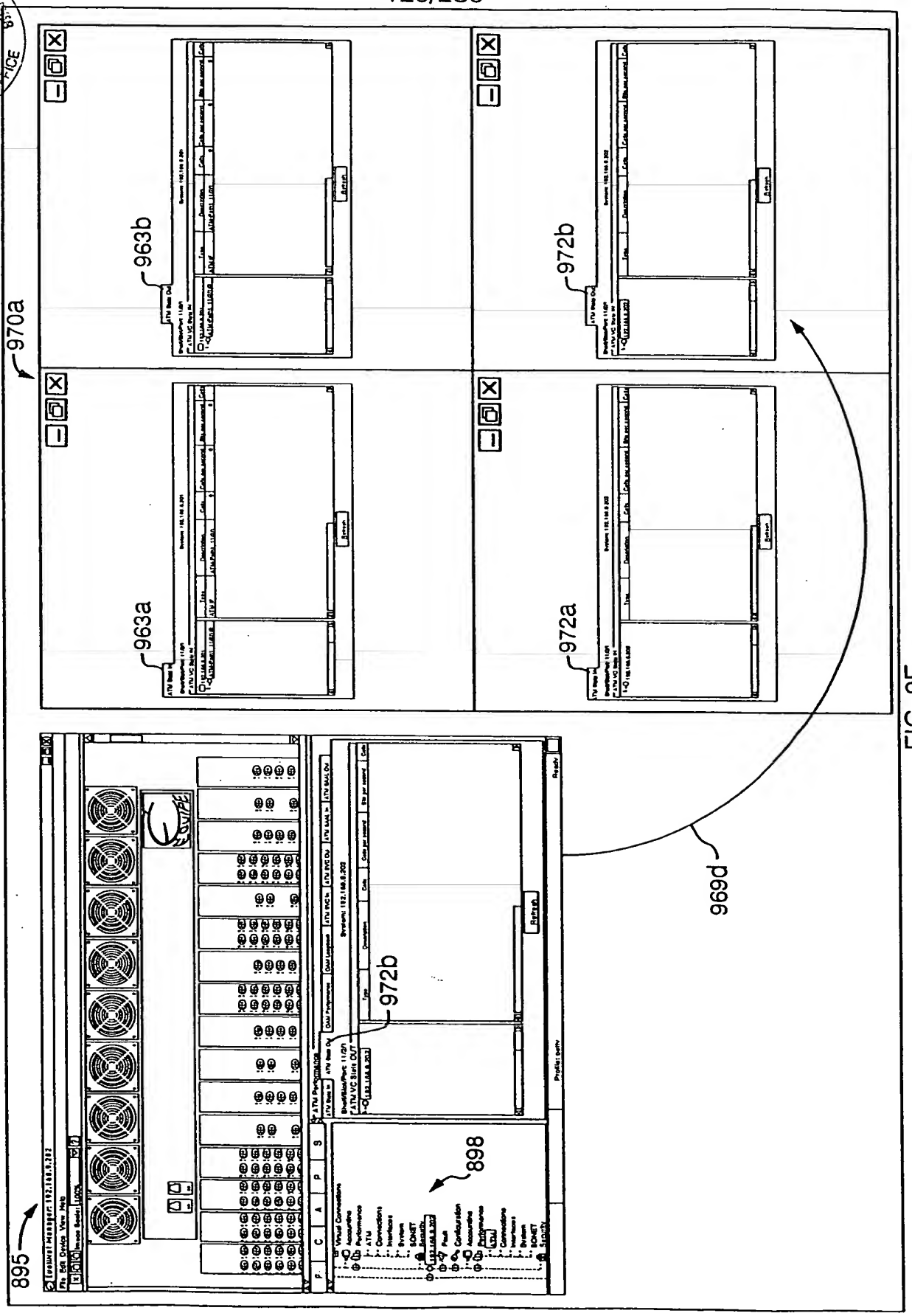


FIG. 9E

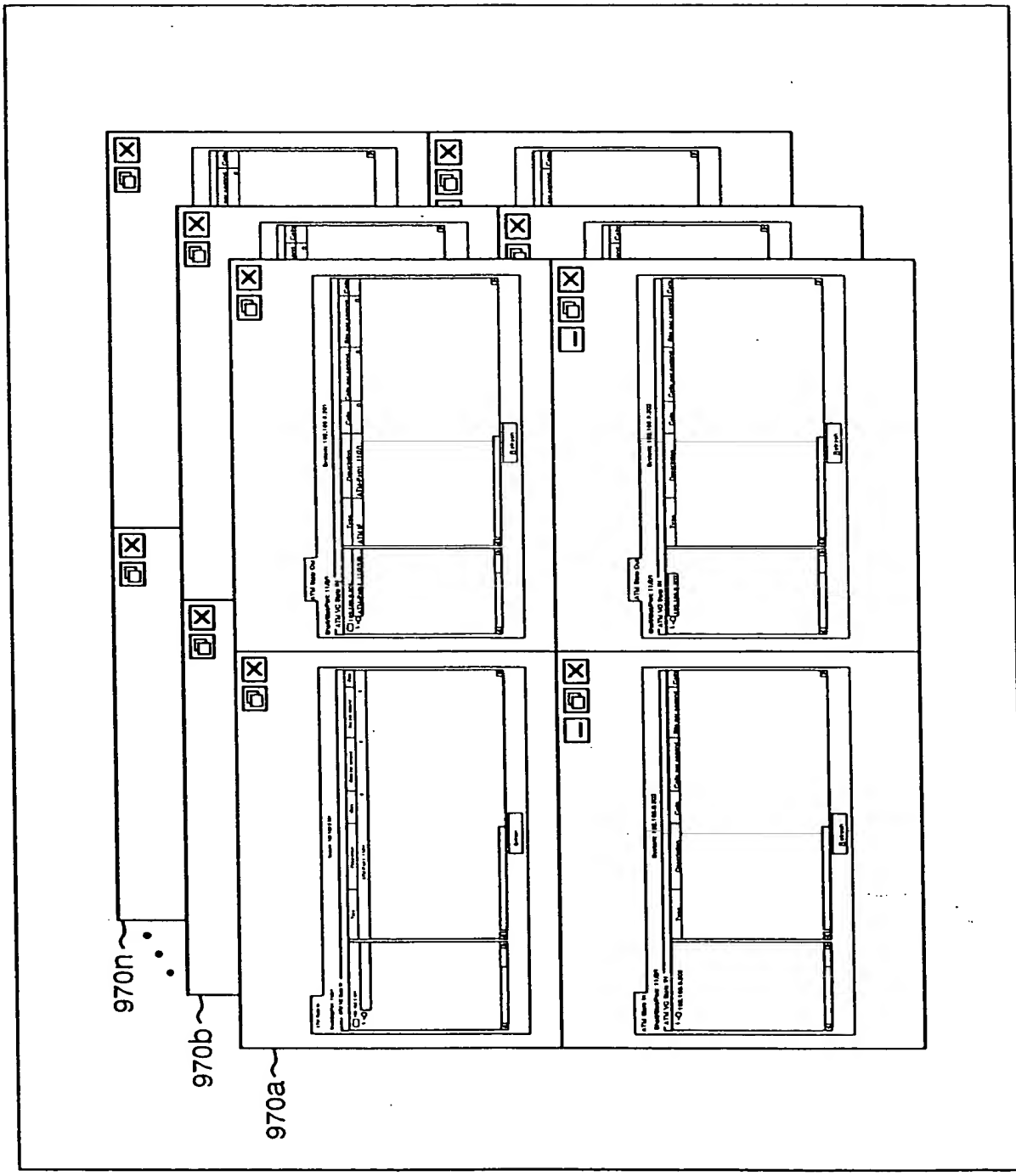


FIG. 9F

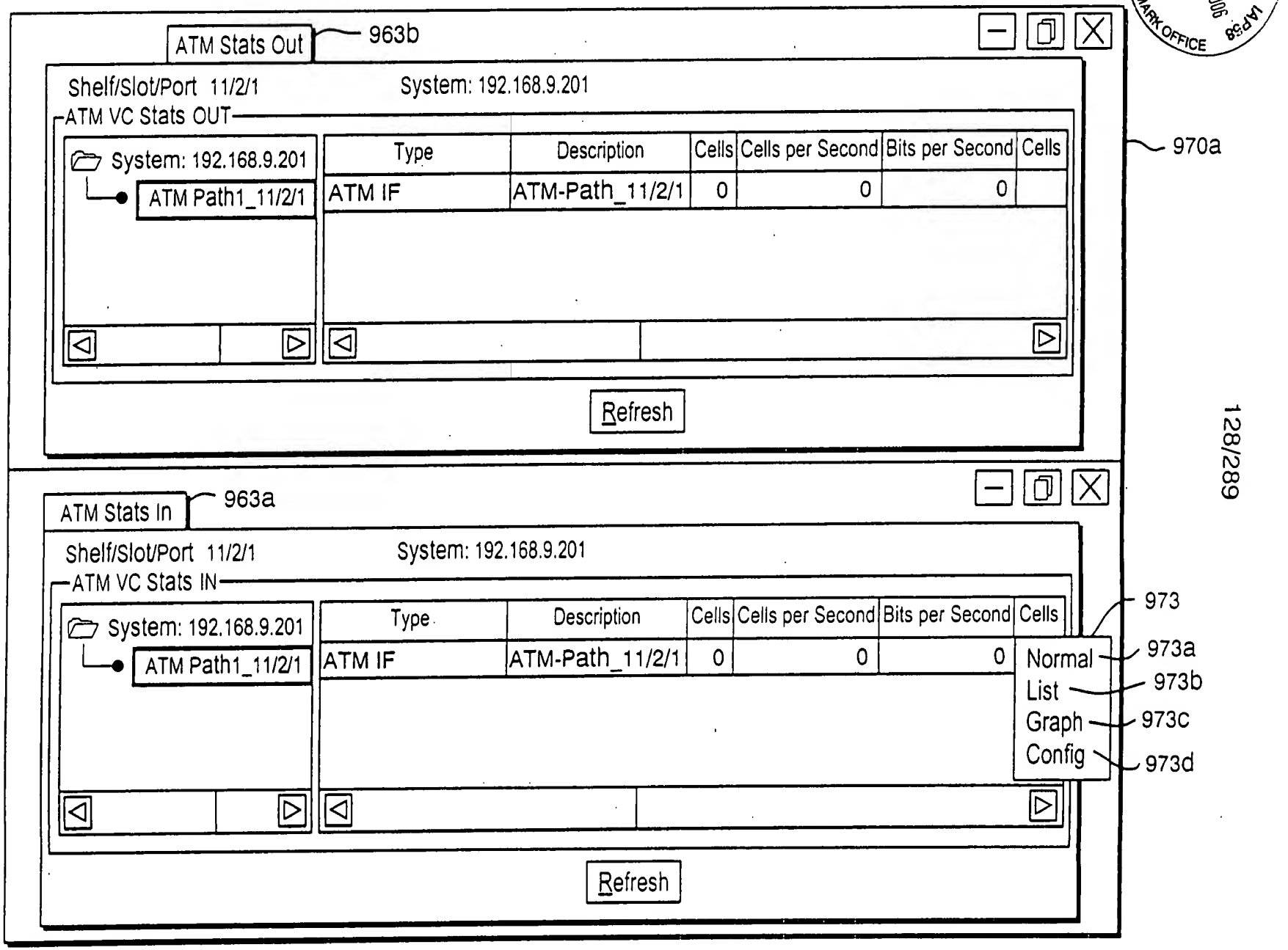


FIG. 9G

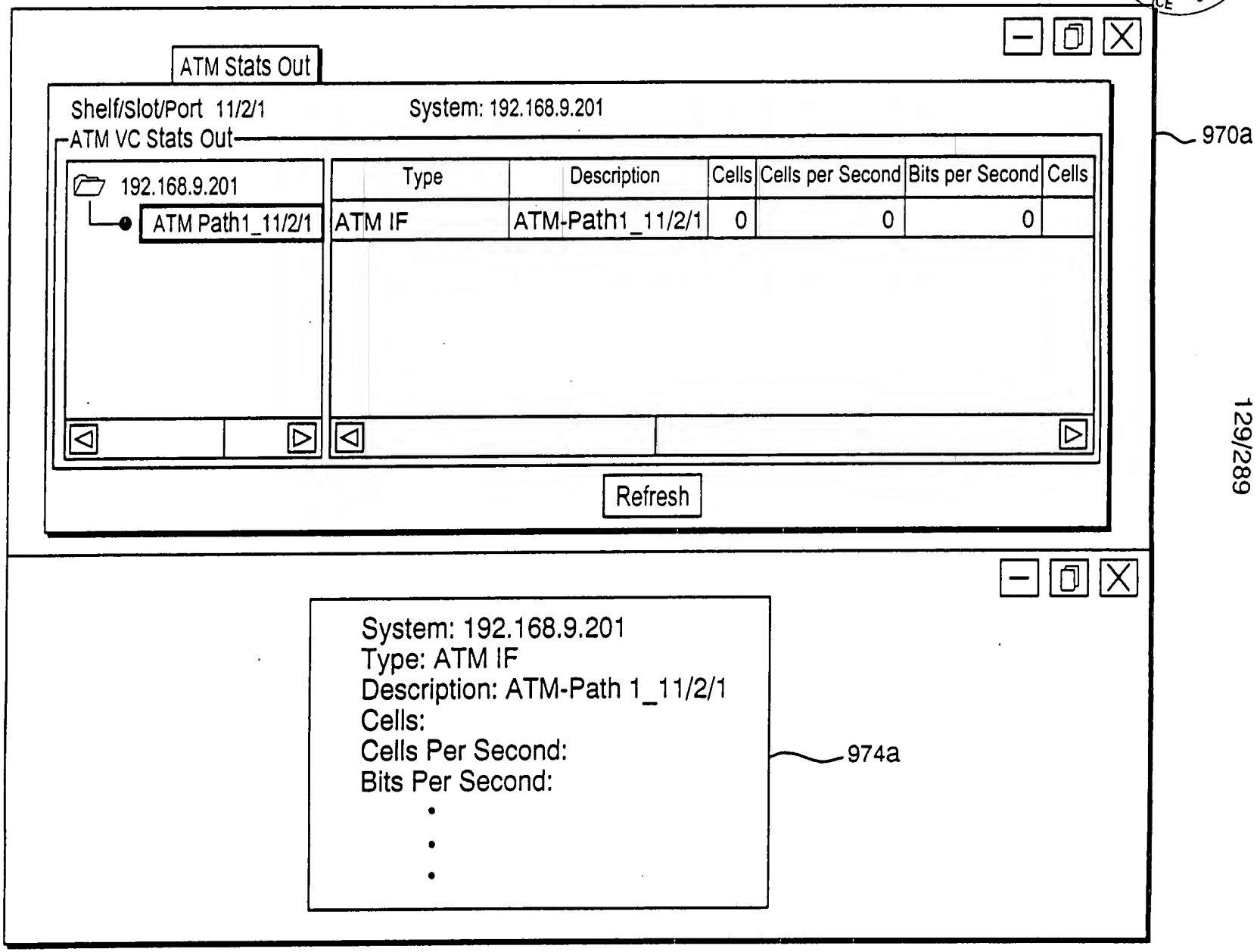


FIG. 9H

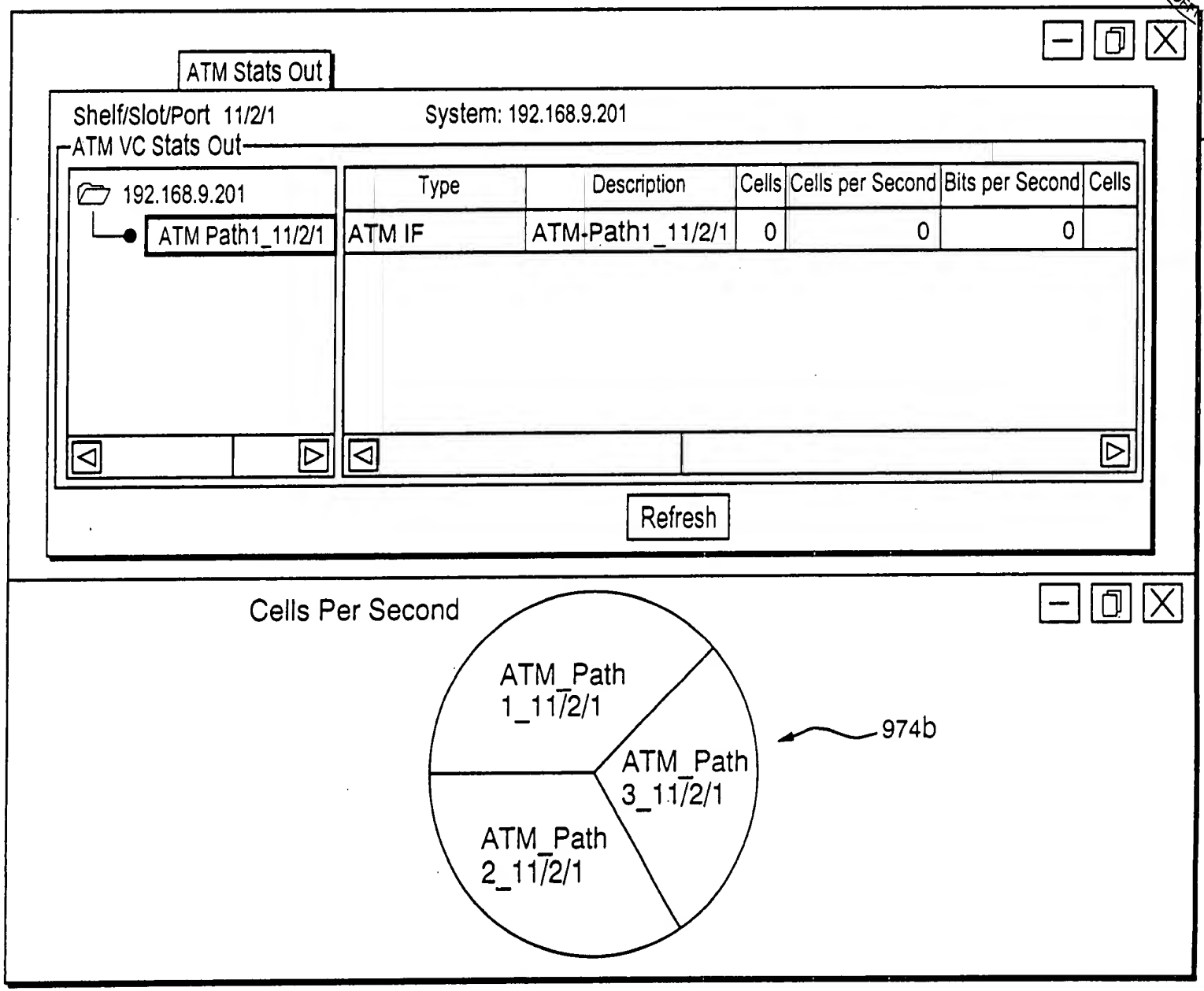


FIG. 9I

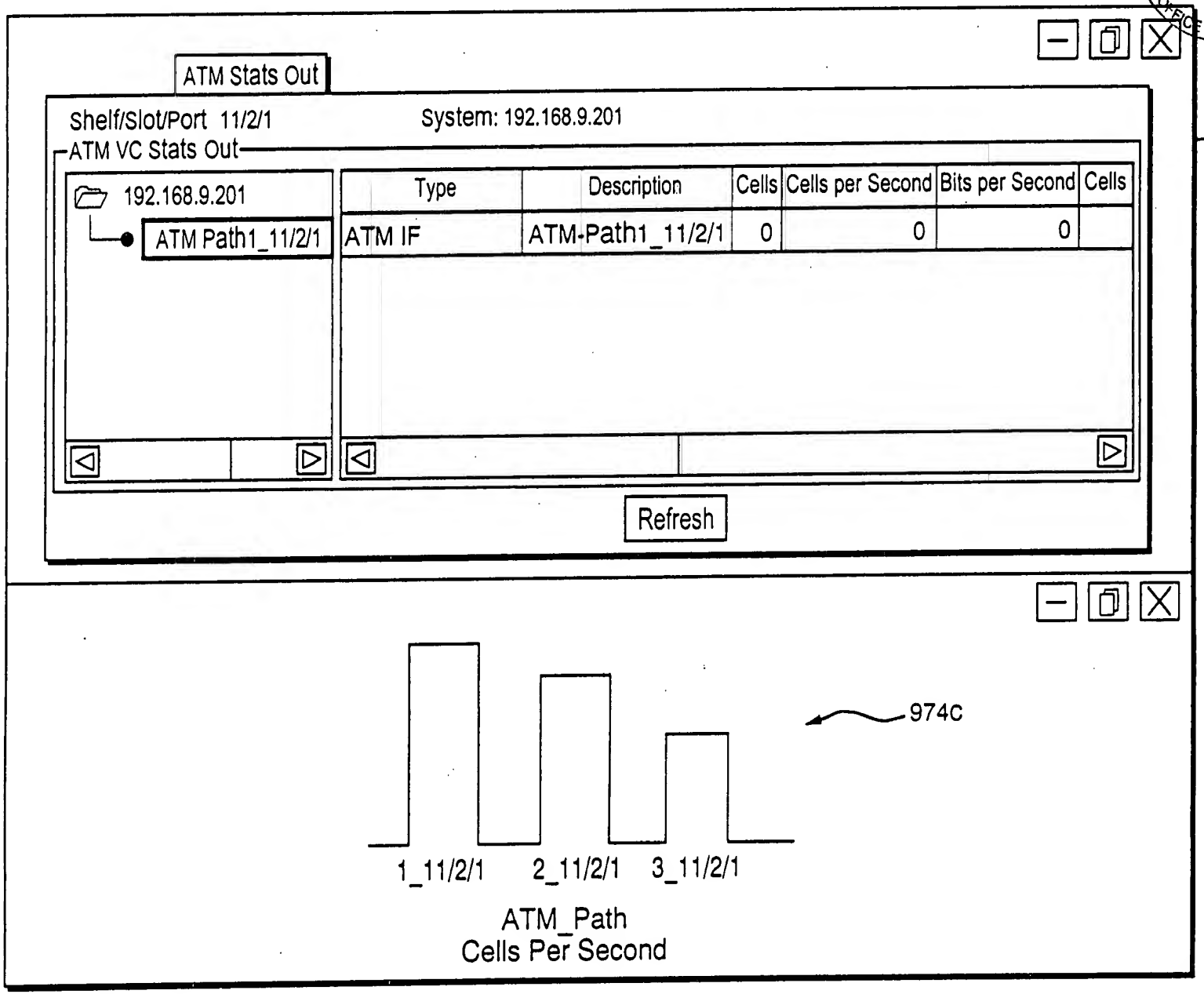


FIG. 9J

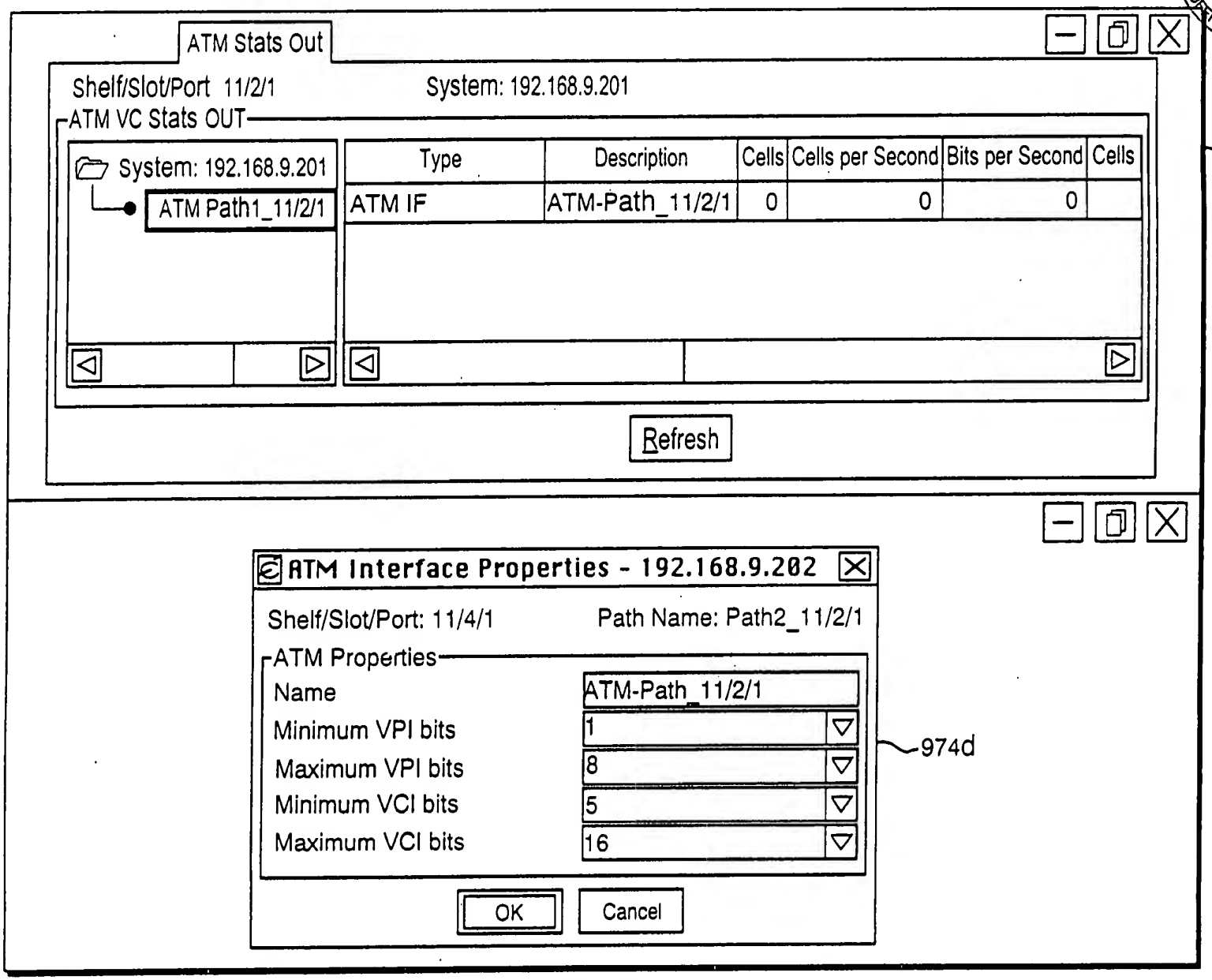


FIG. 9K

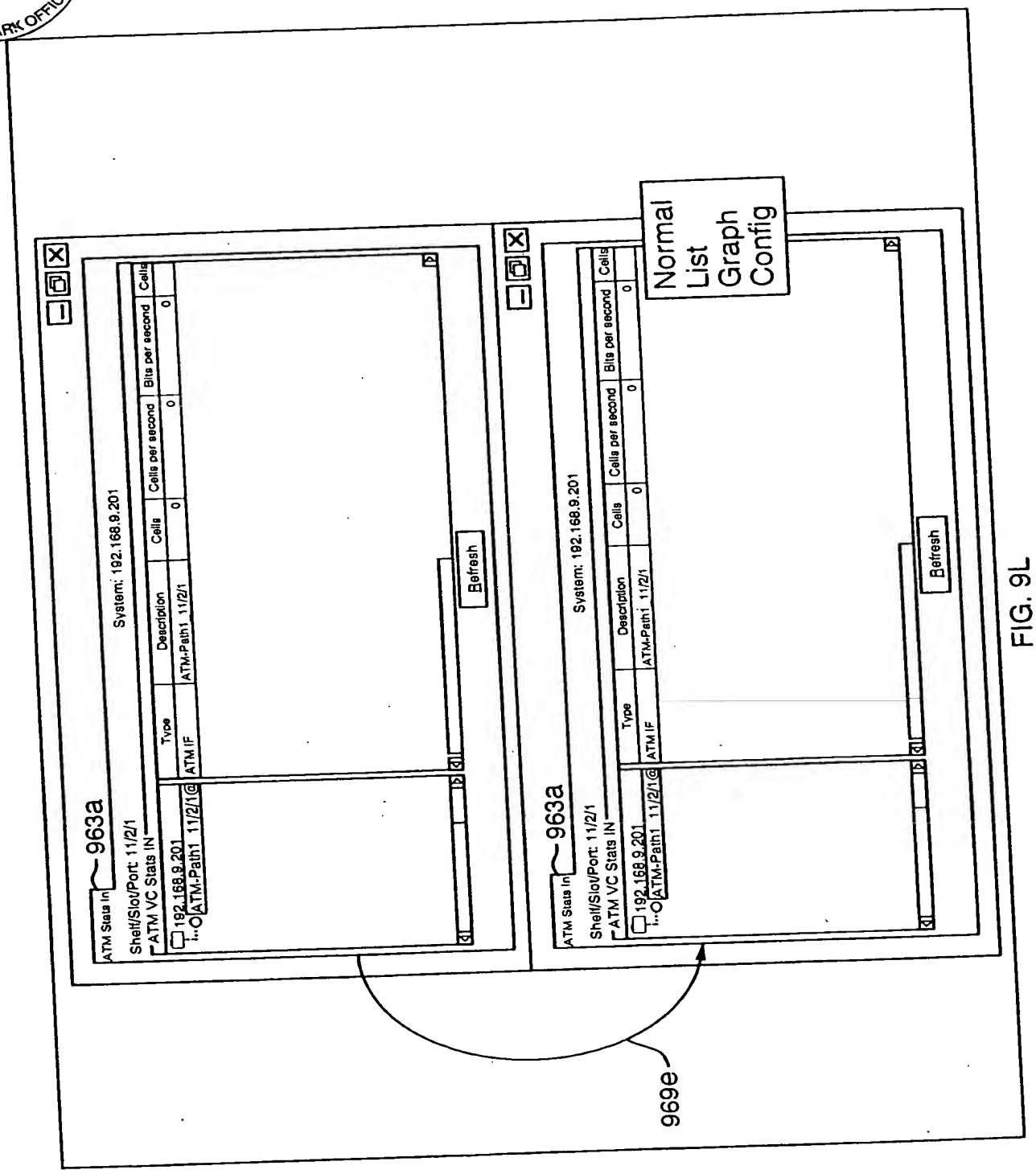


FIG. 9L

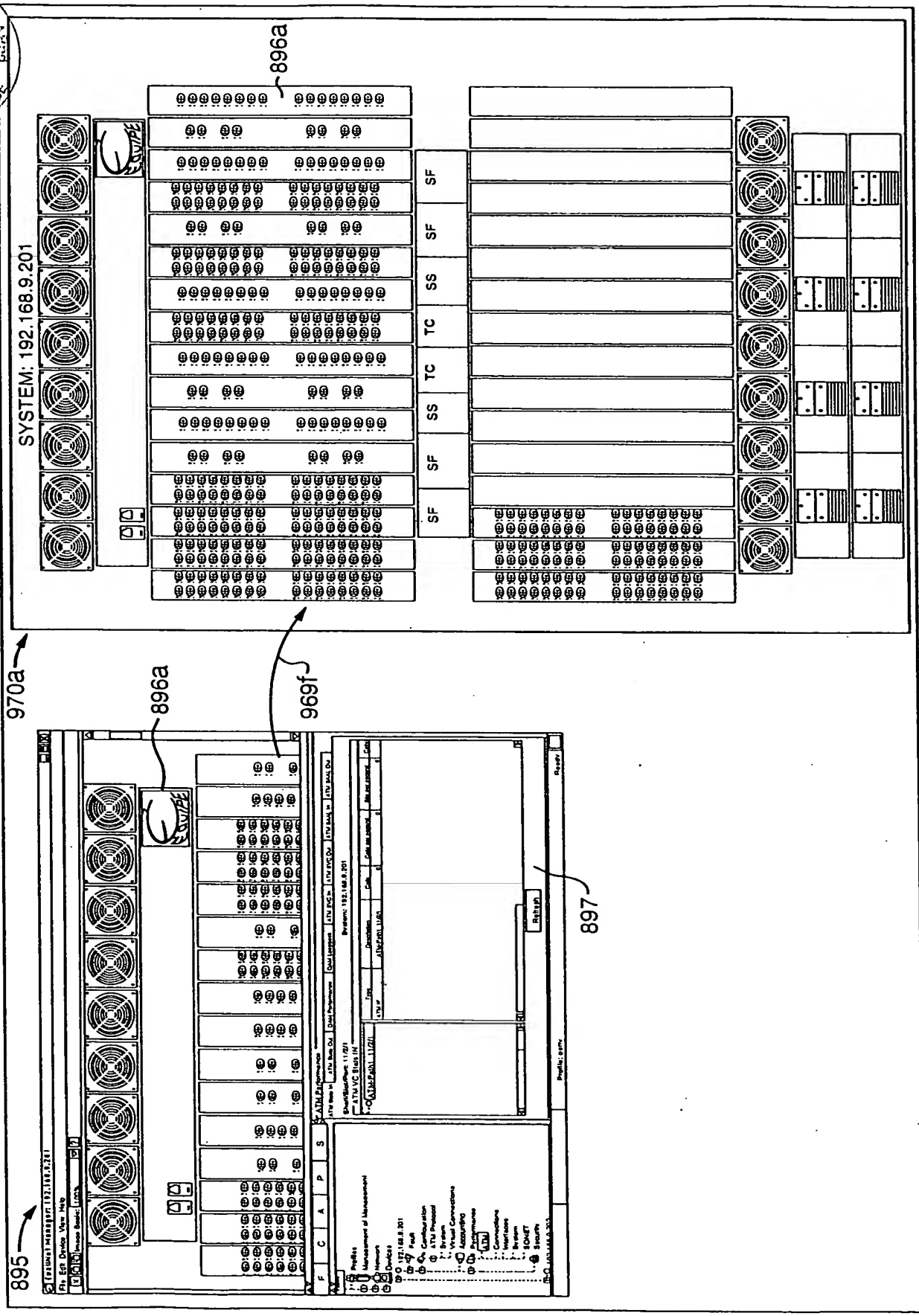


FIG. 9M

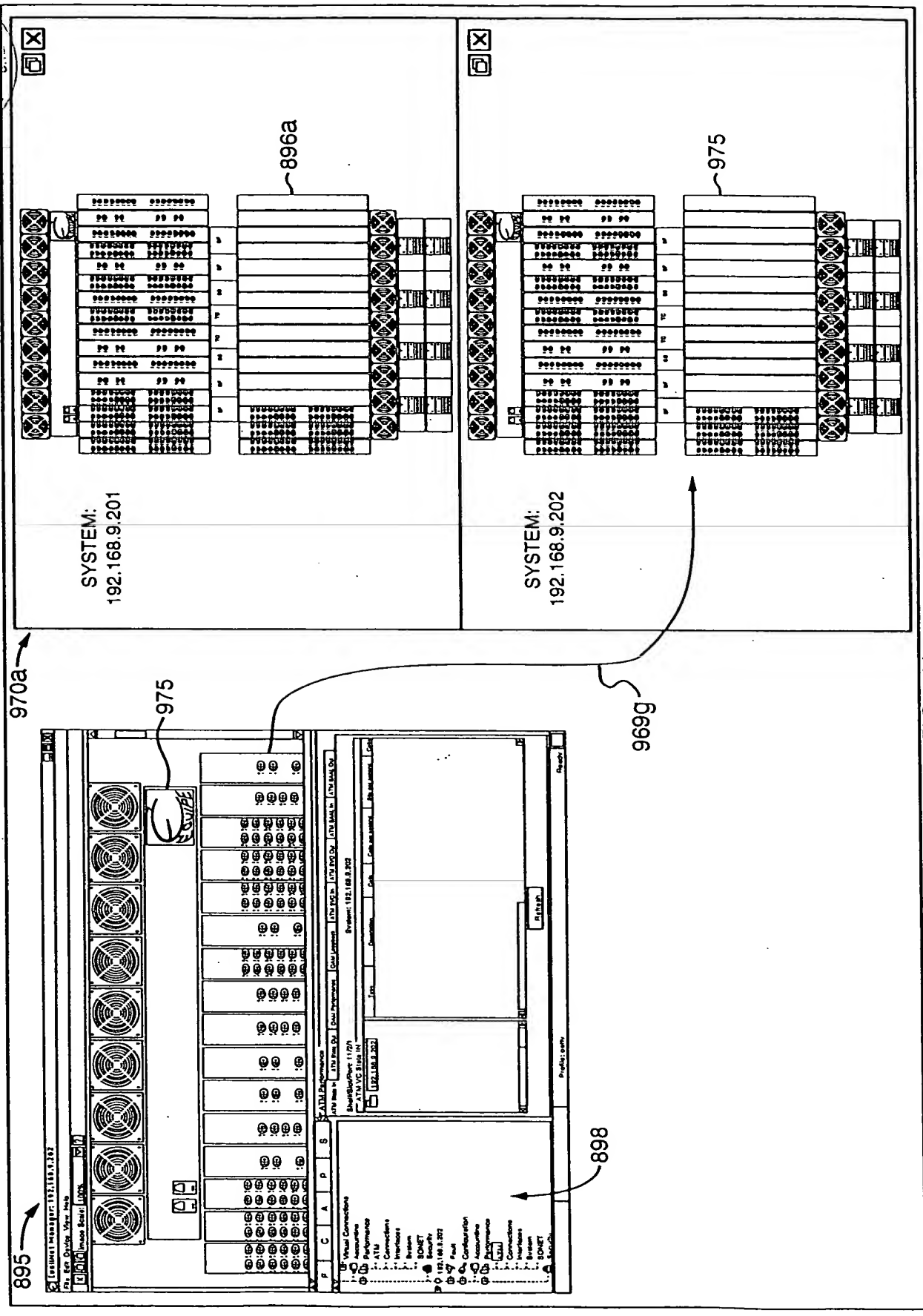


FIG. 9N

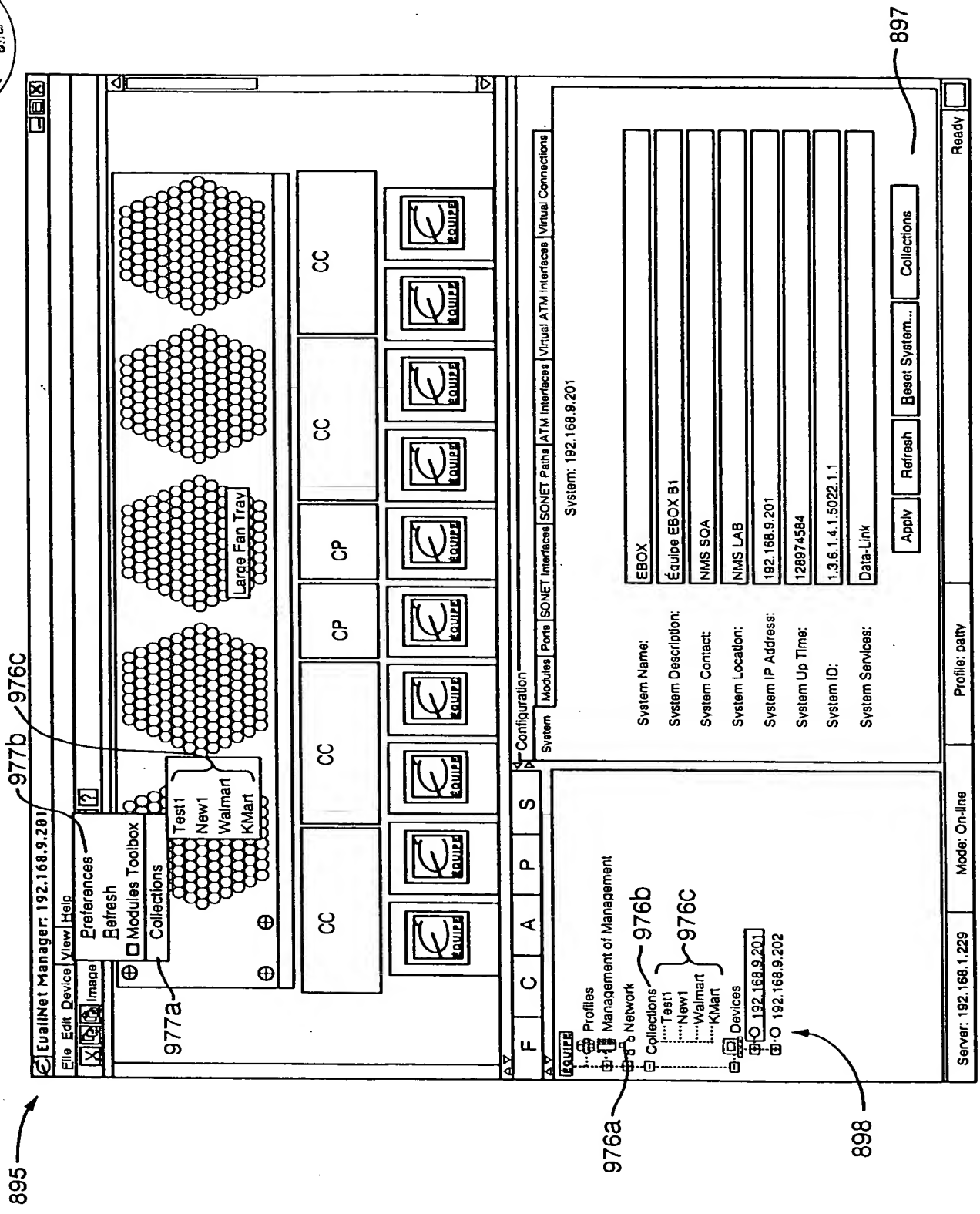


FIG. 10A

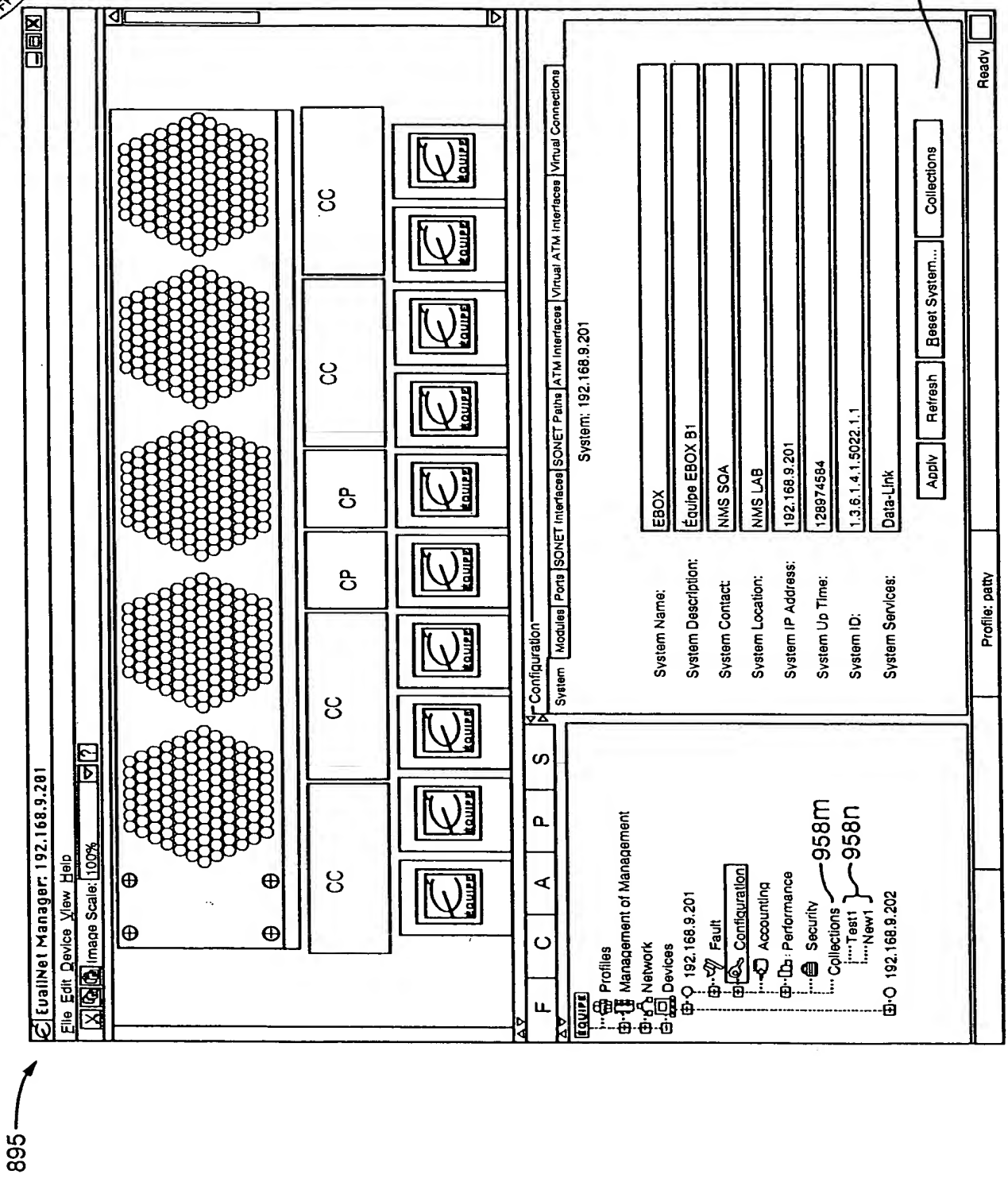


FIG. 10B

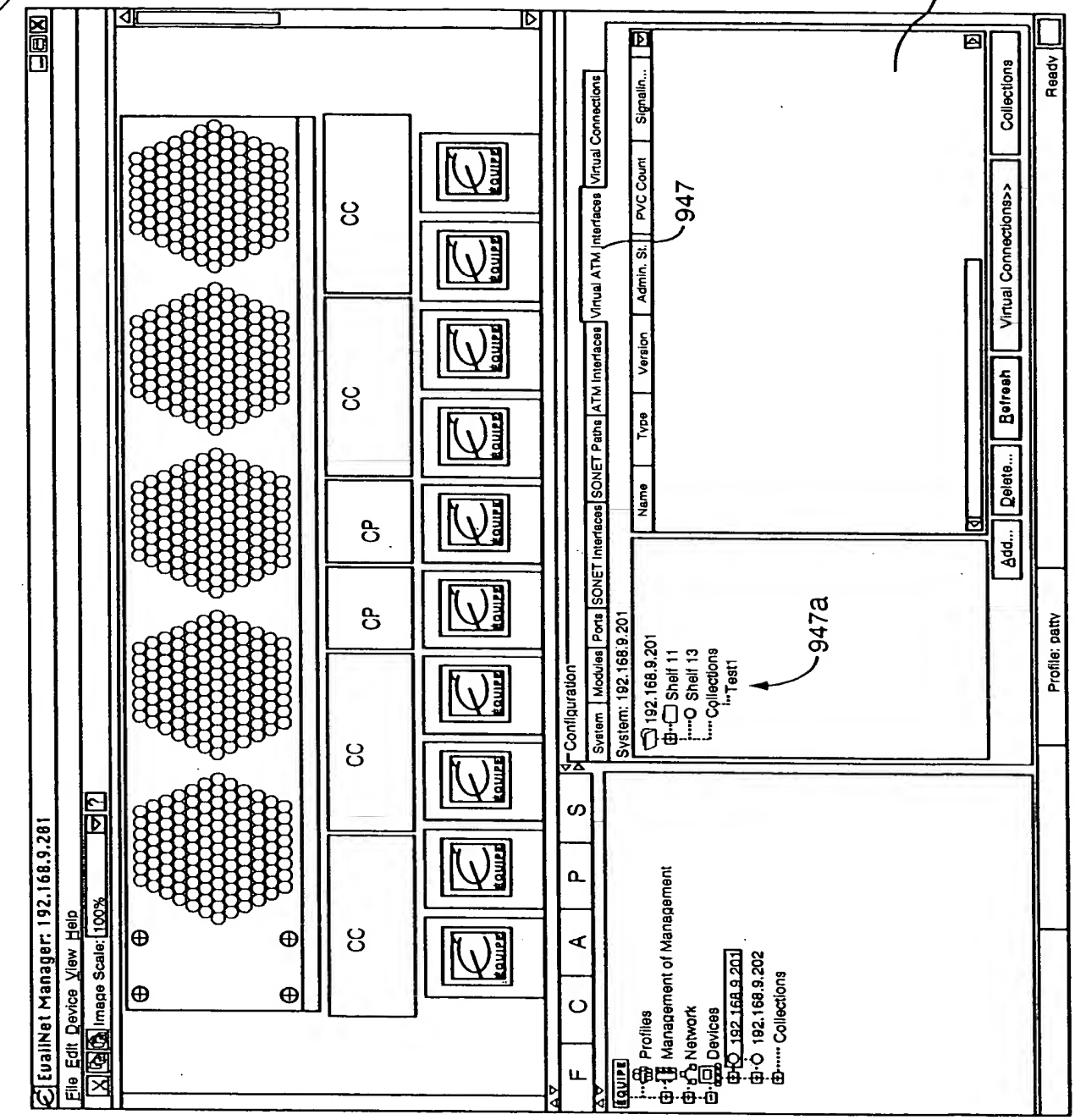


FIG. 10C

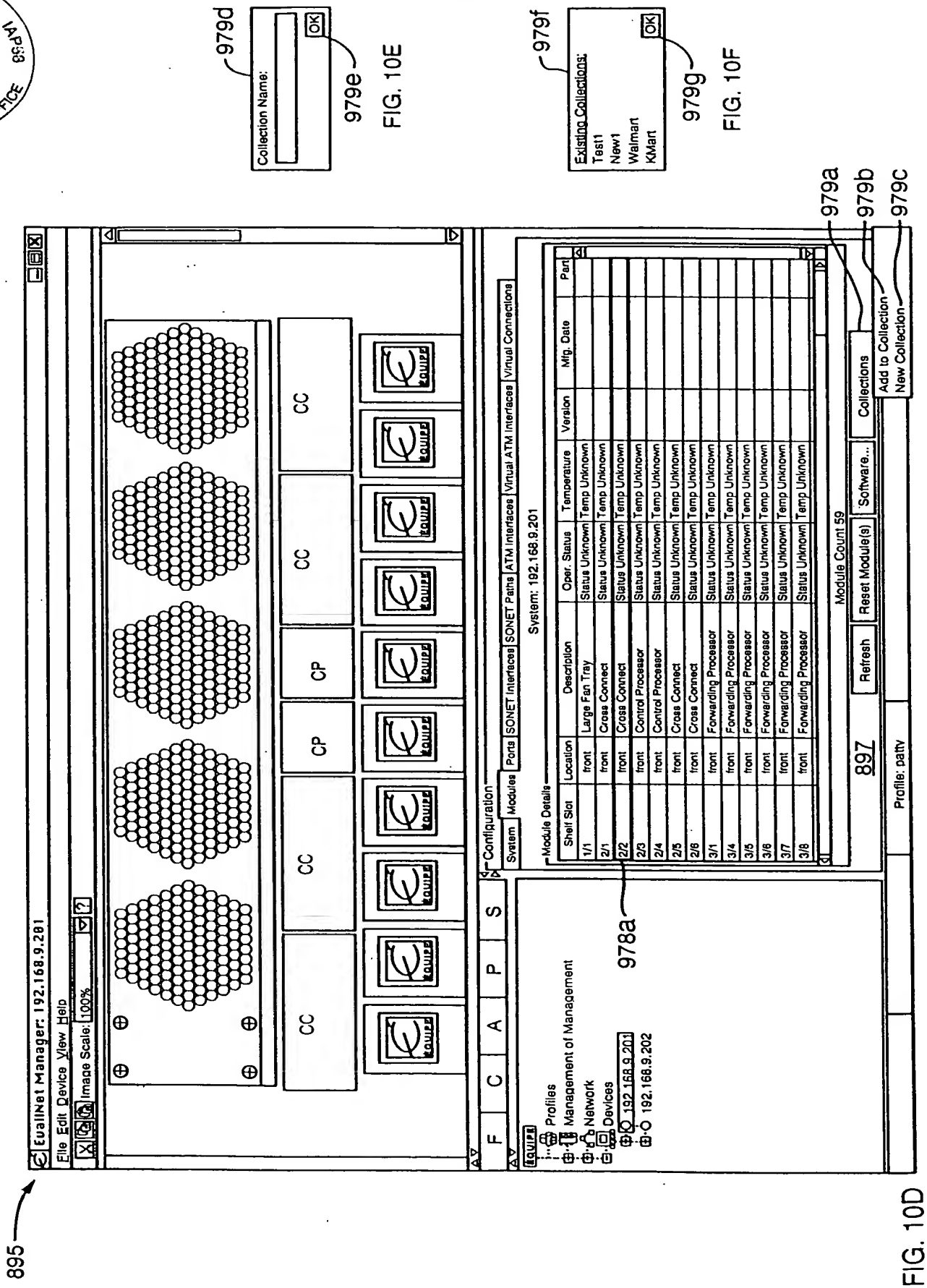


FIG. 10D

FIG. 10E

FIG. 10F

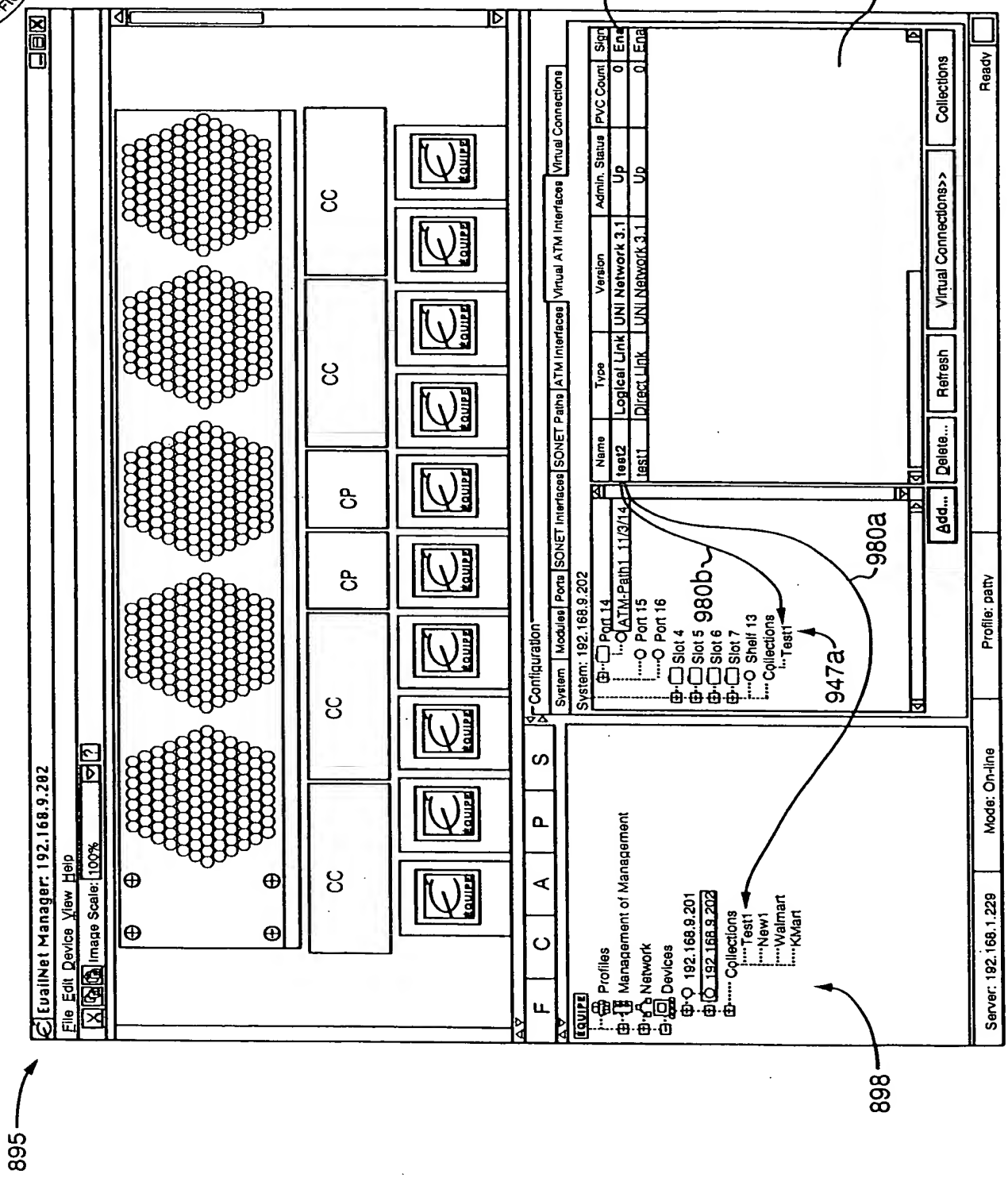


FIG. 10G

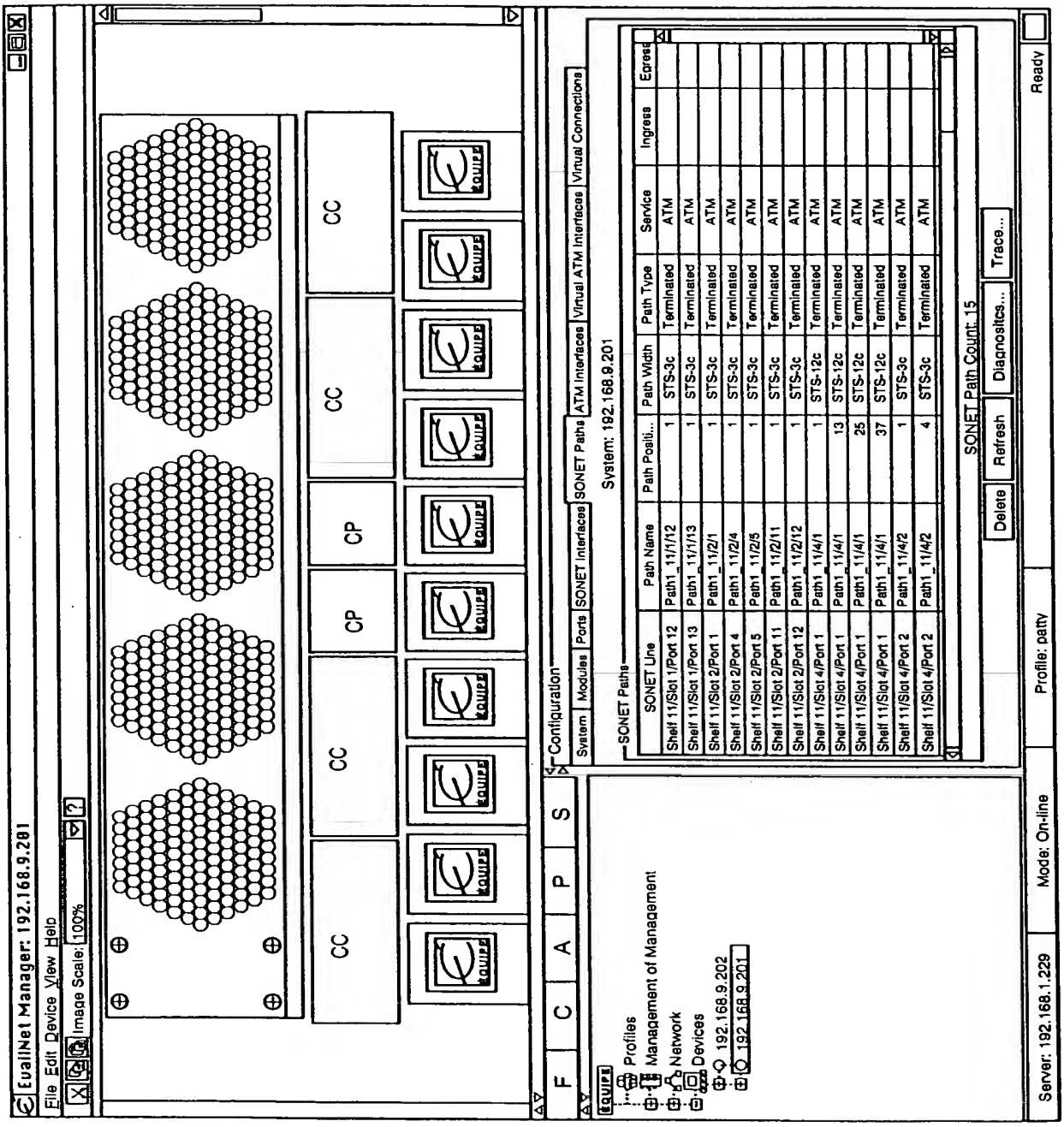


FIG. 10H

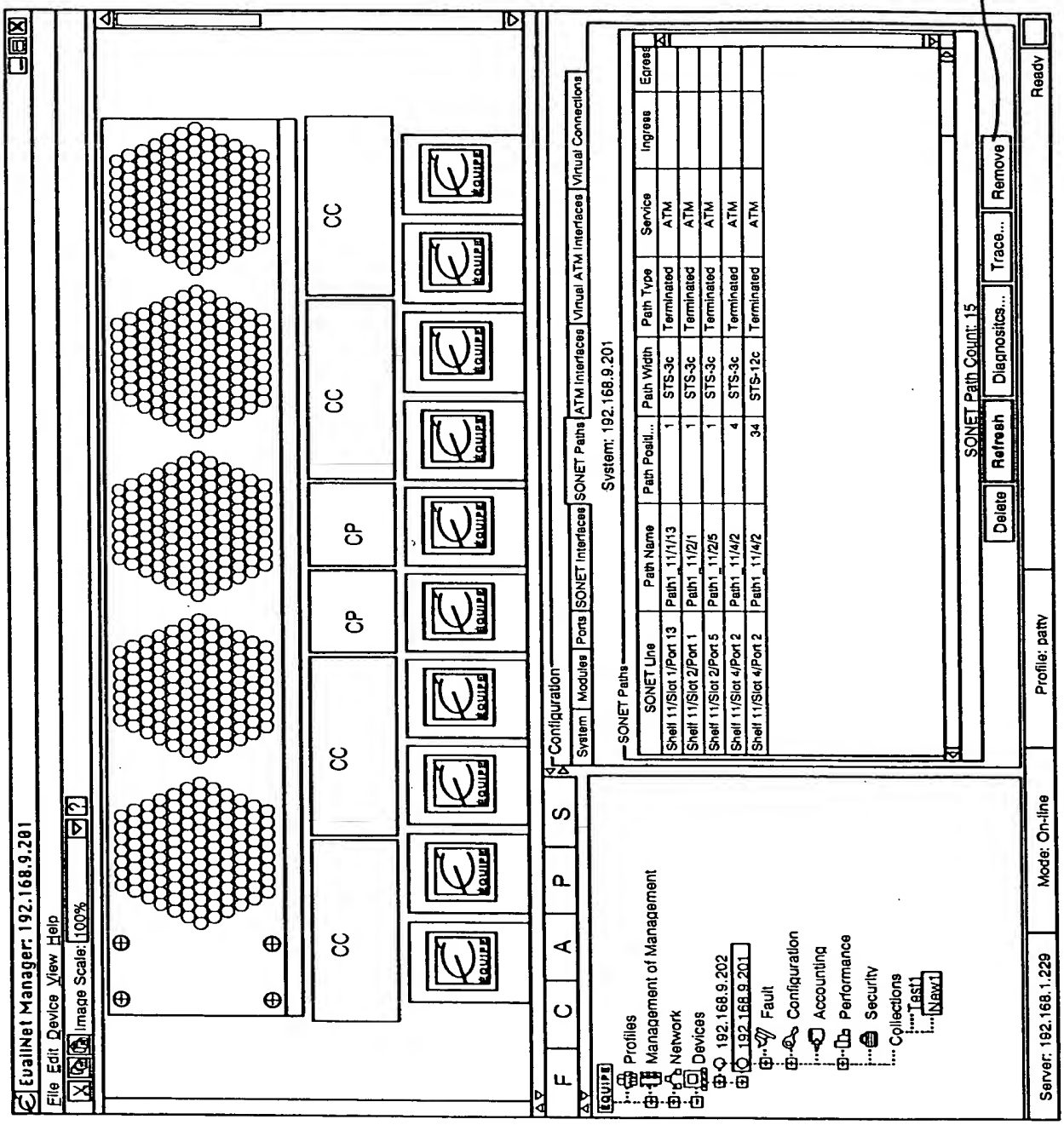


FIG. 101

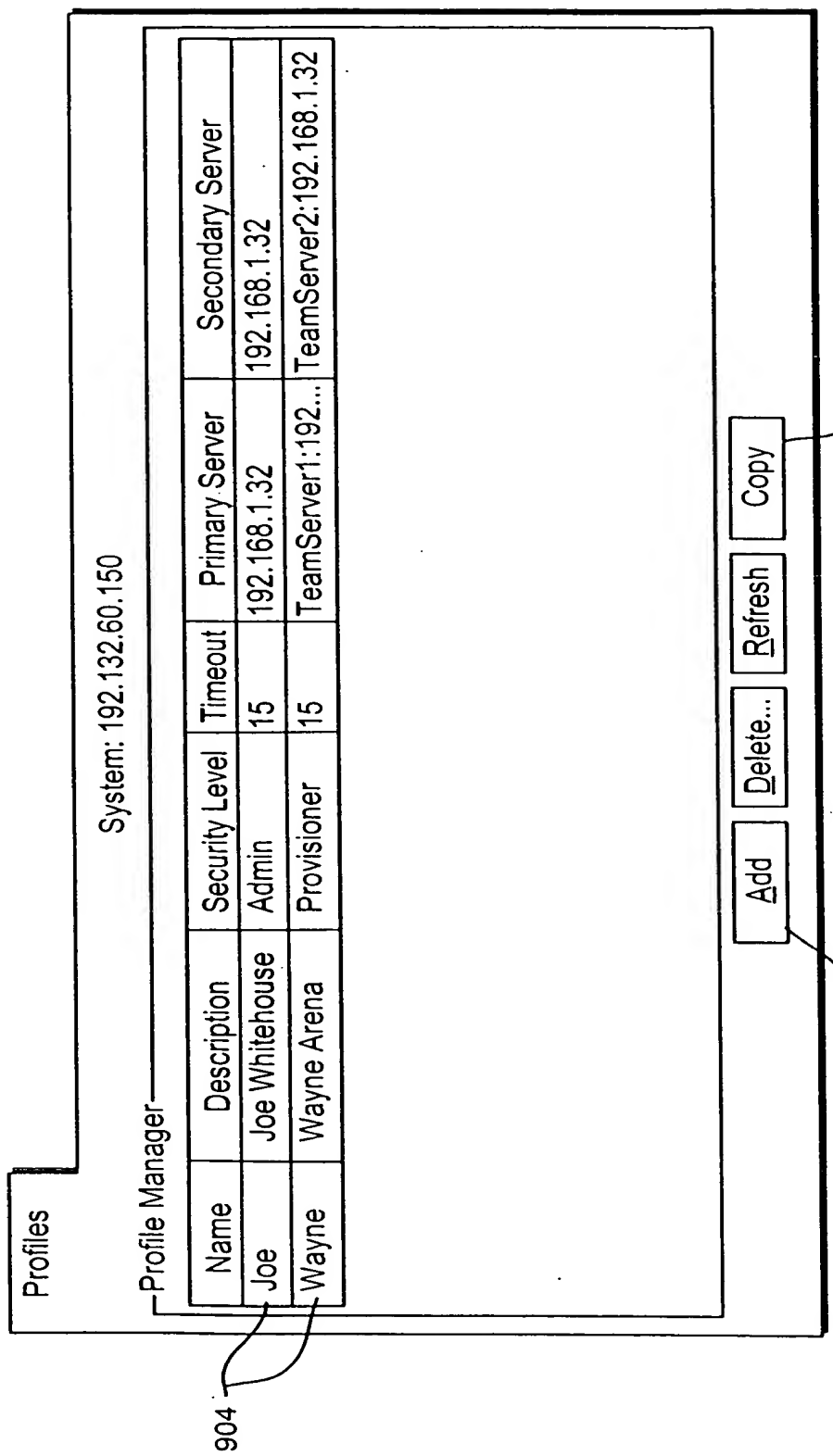


FIG. 11A

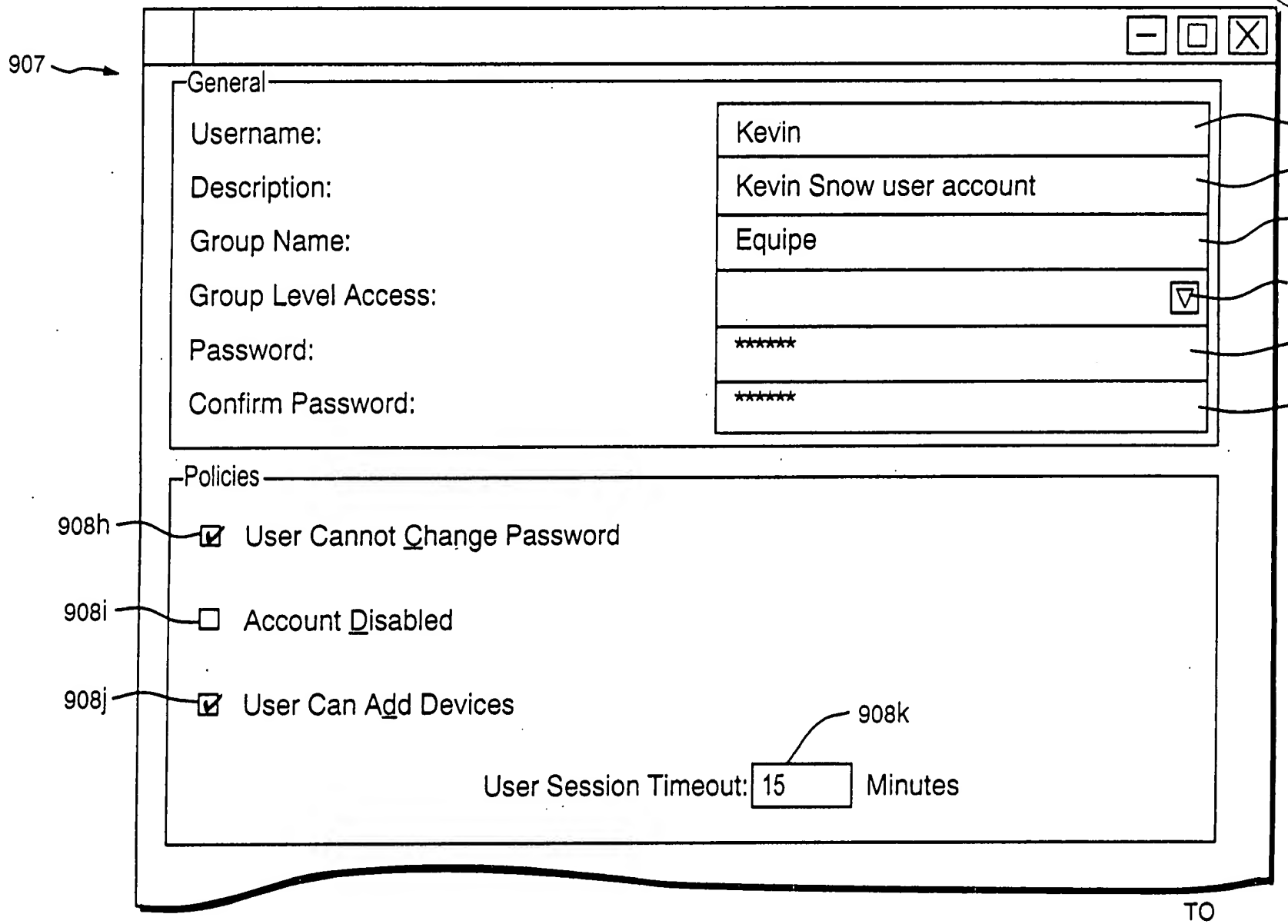


FIG. 11B

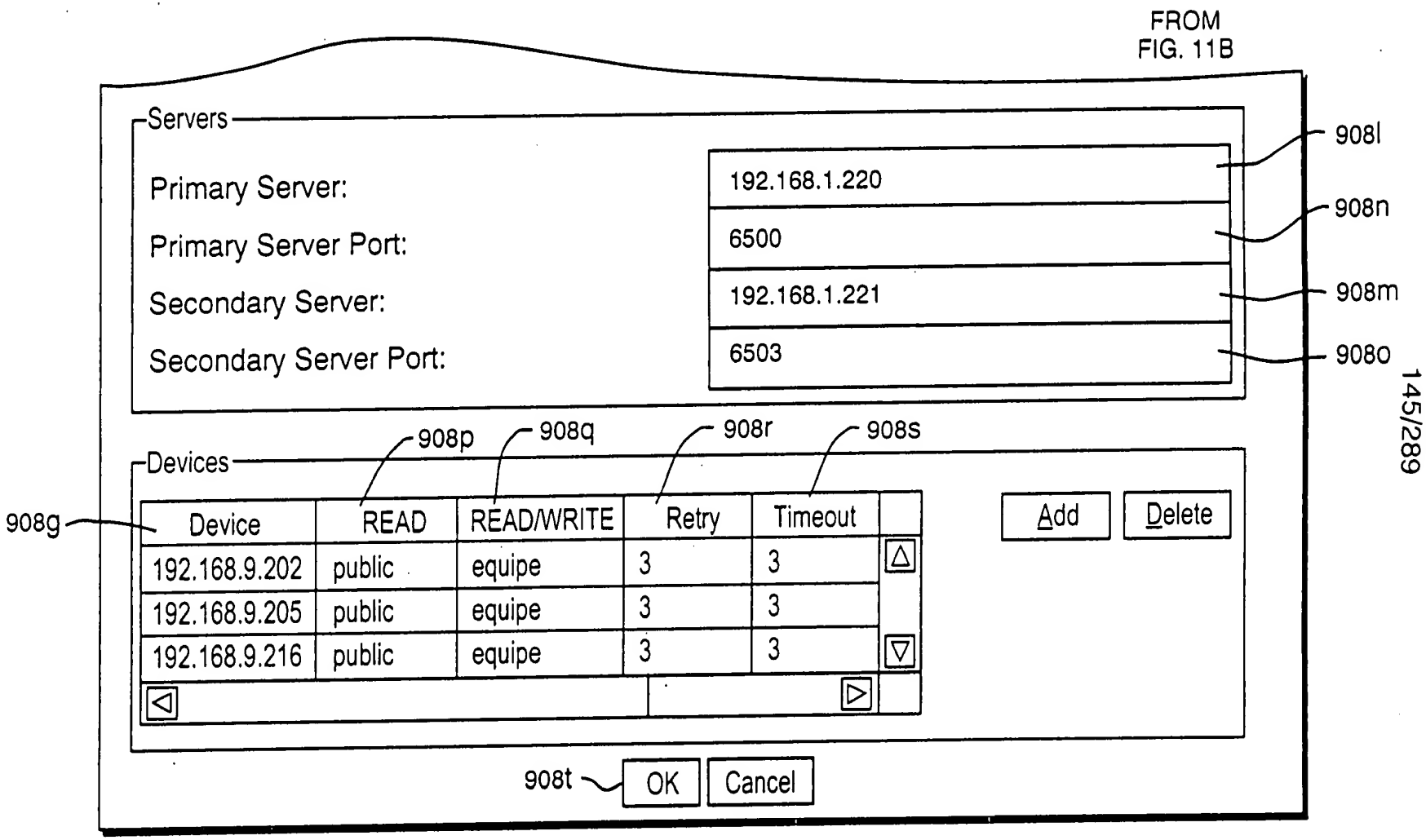


FIG. 11C

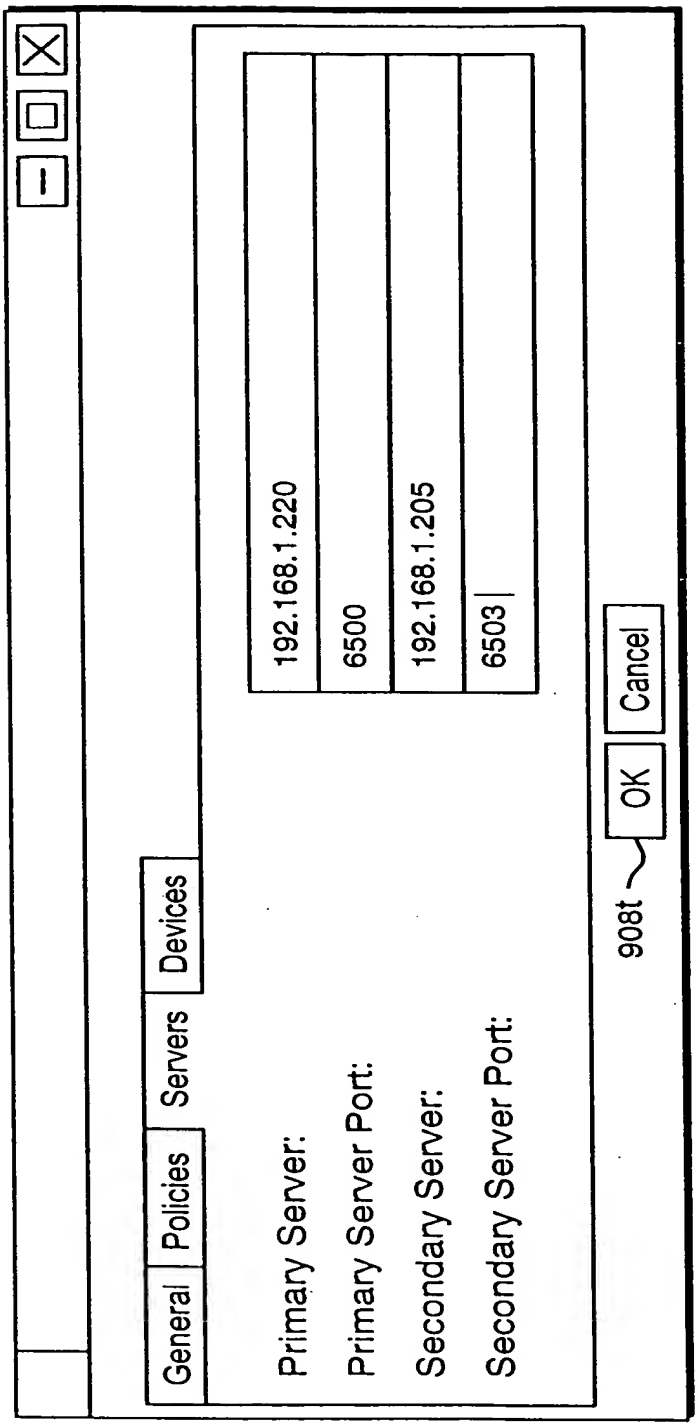


FIG. 11D

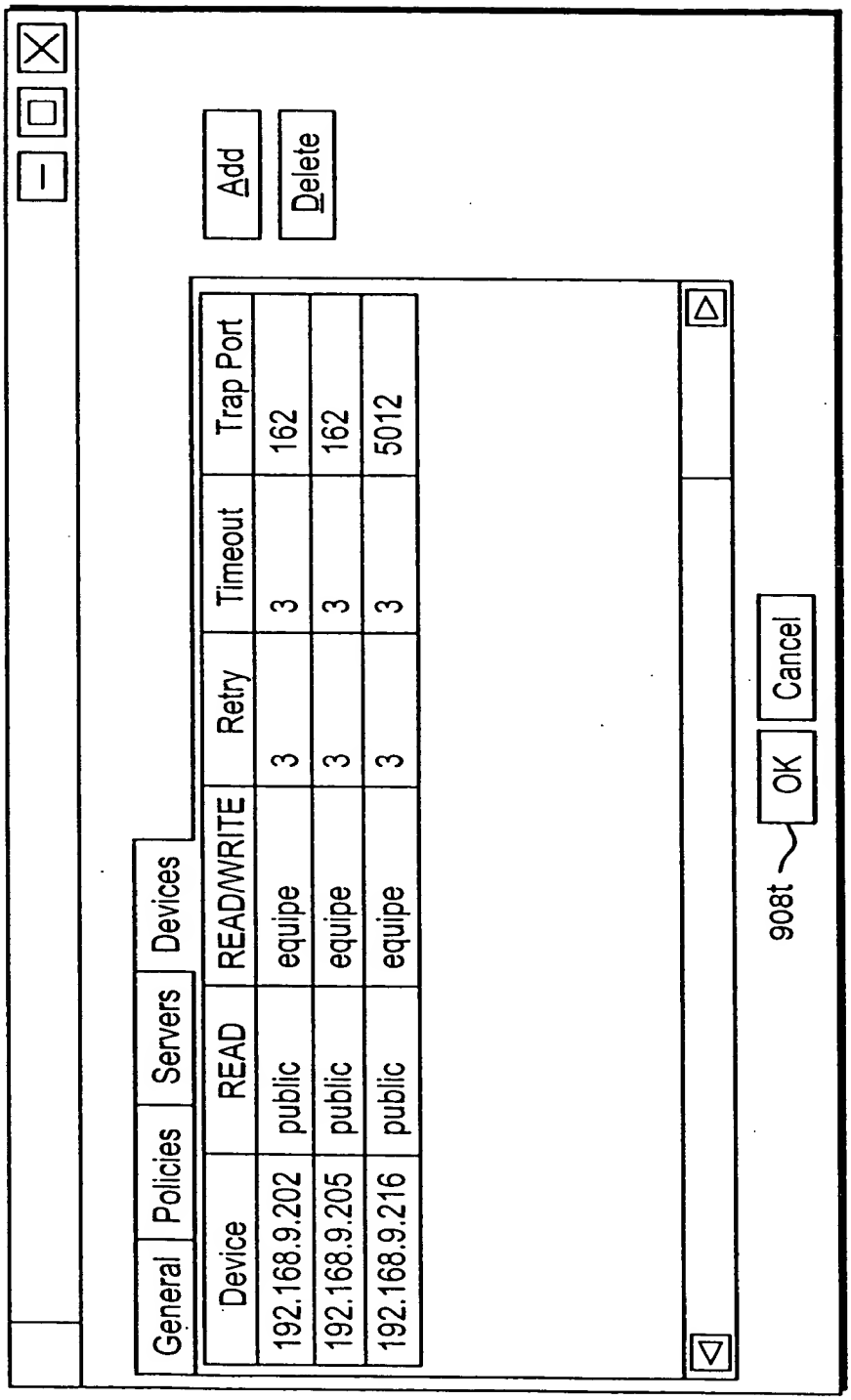


FIG. 11E

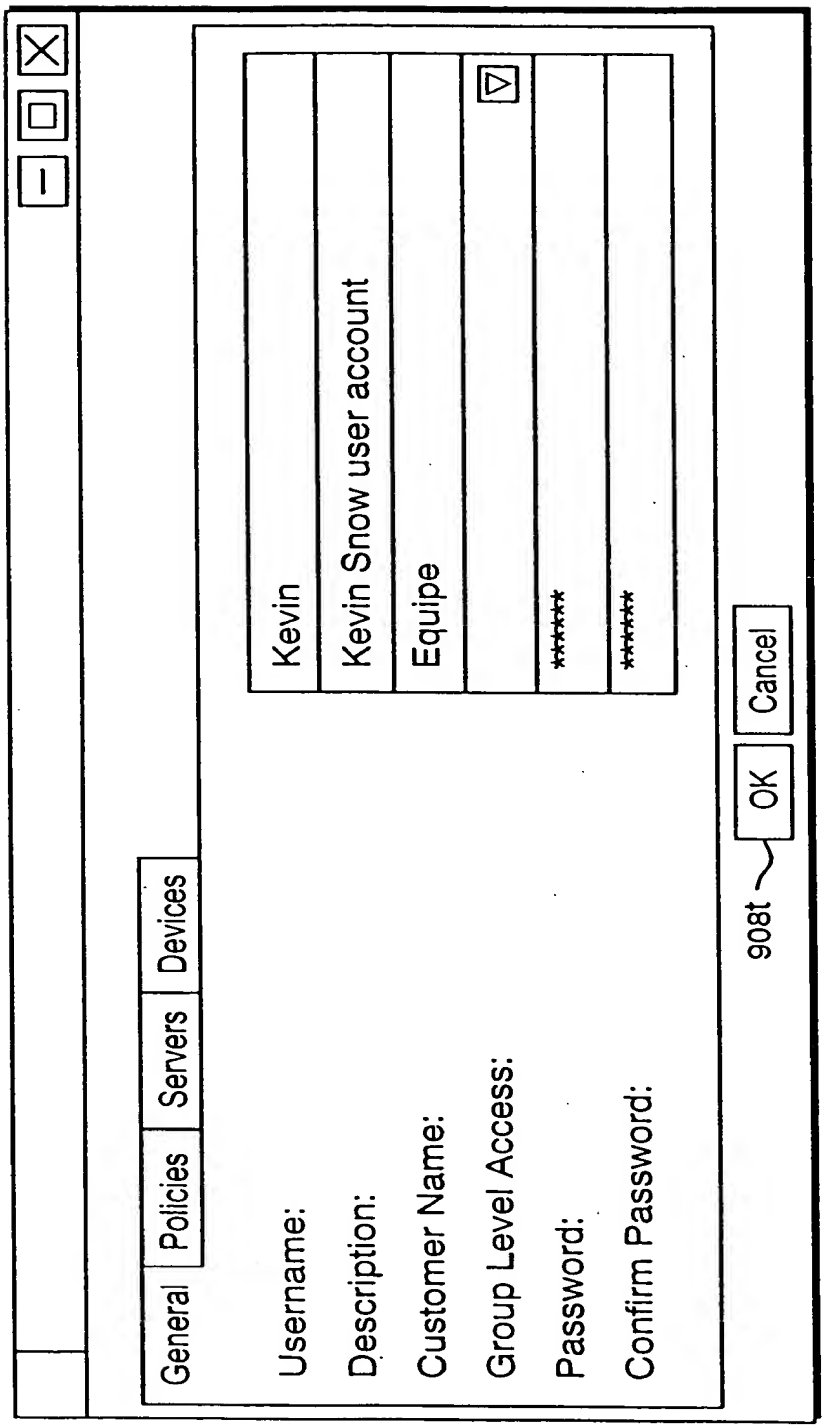


FIG. 11F

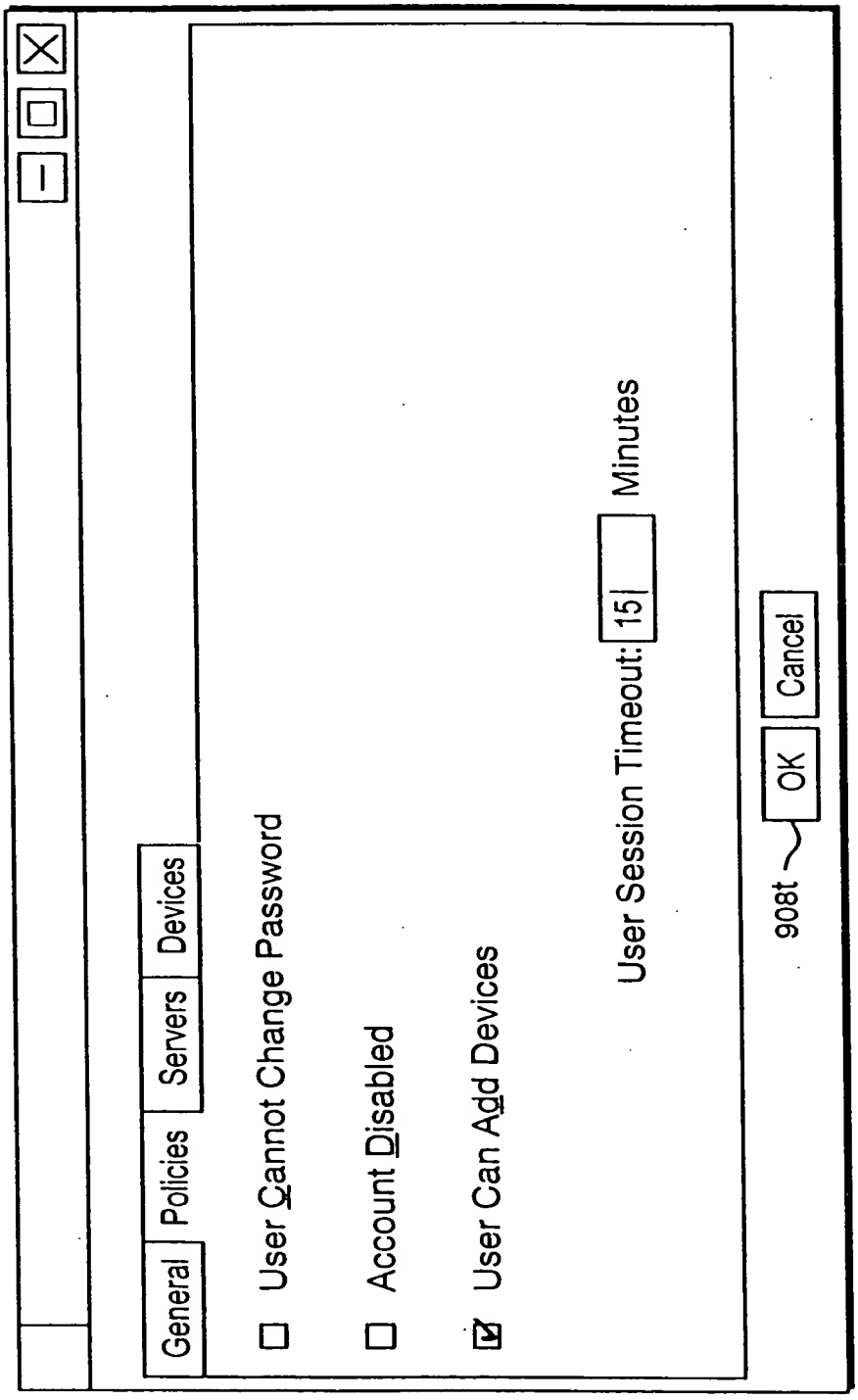


FIG. 11G

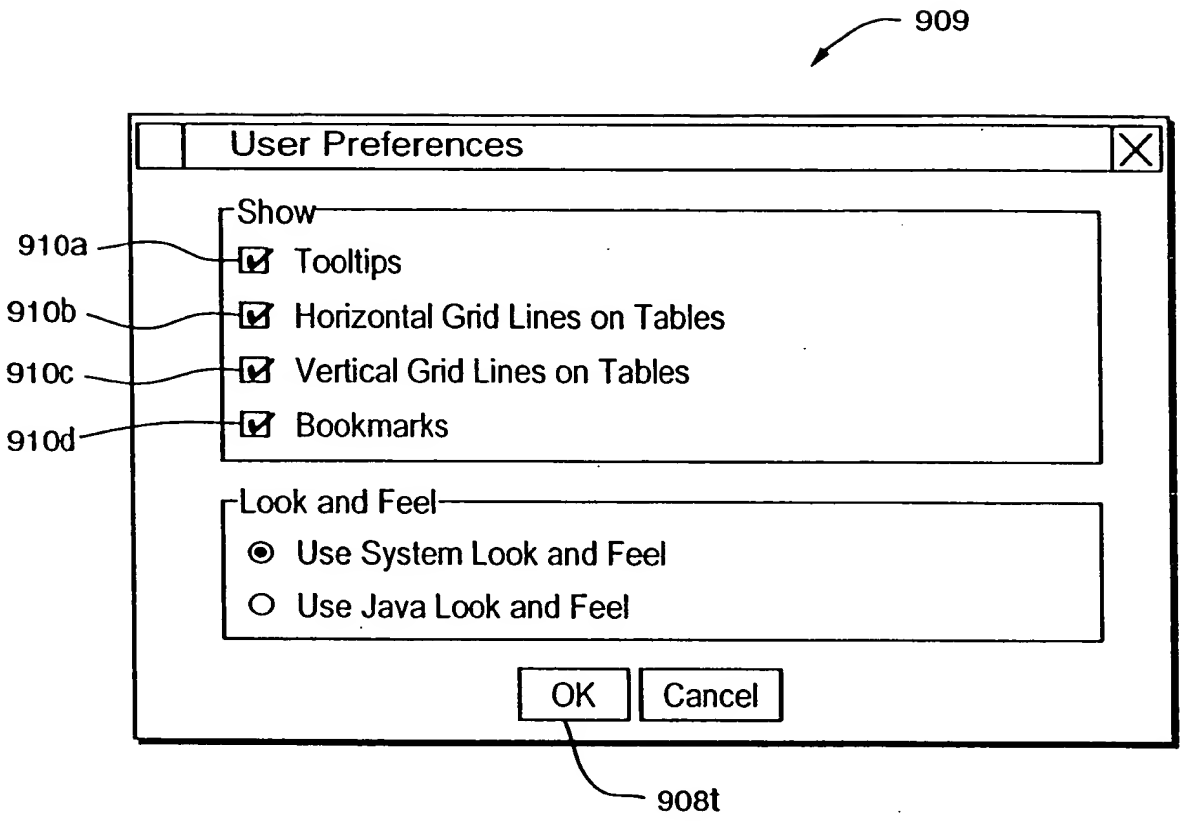


FIG. 11H

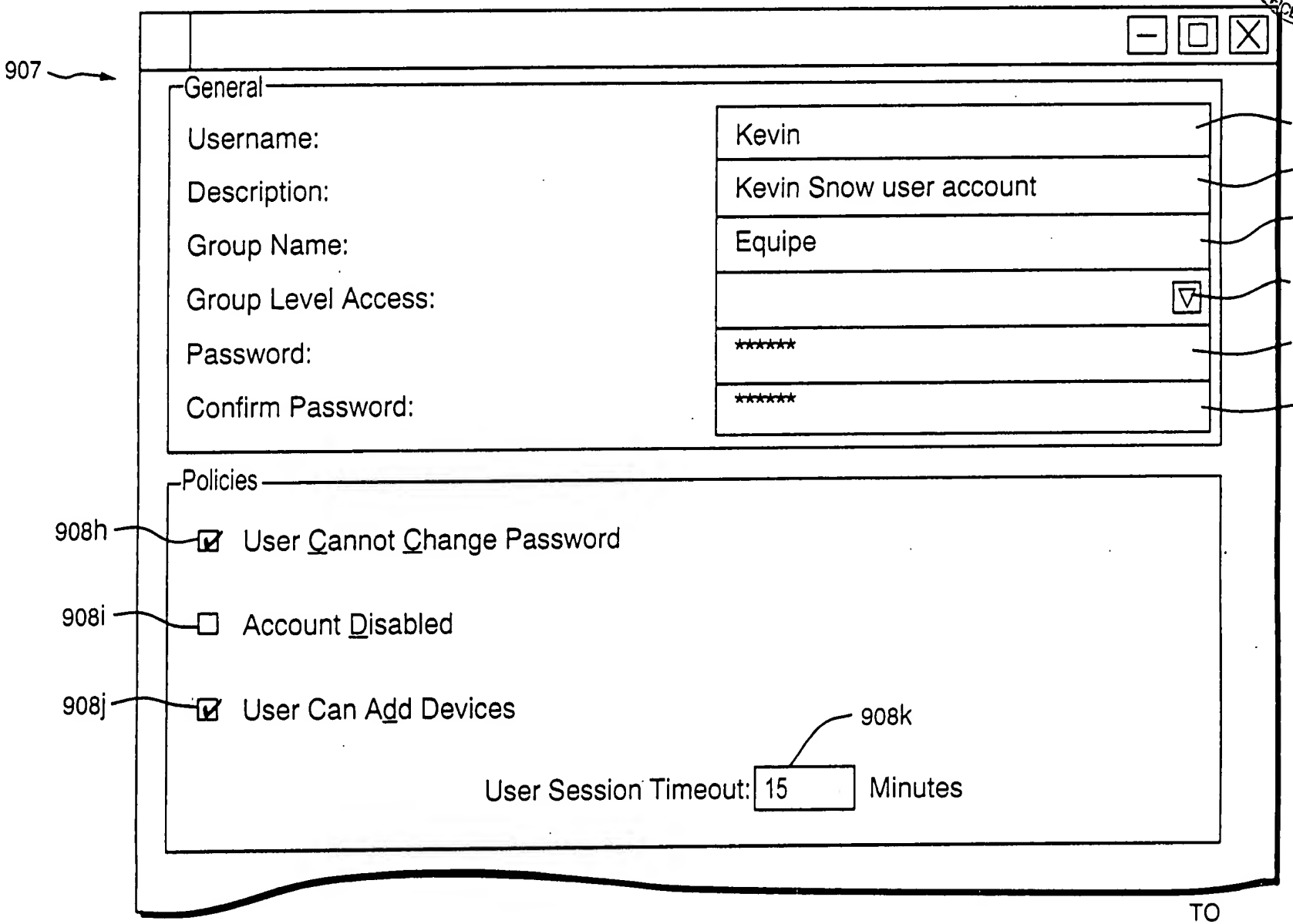


FIG. 11I

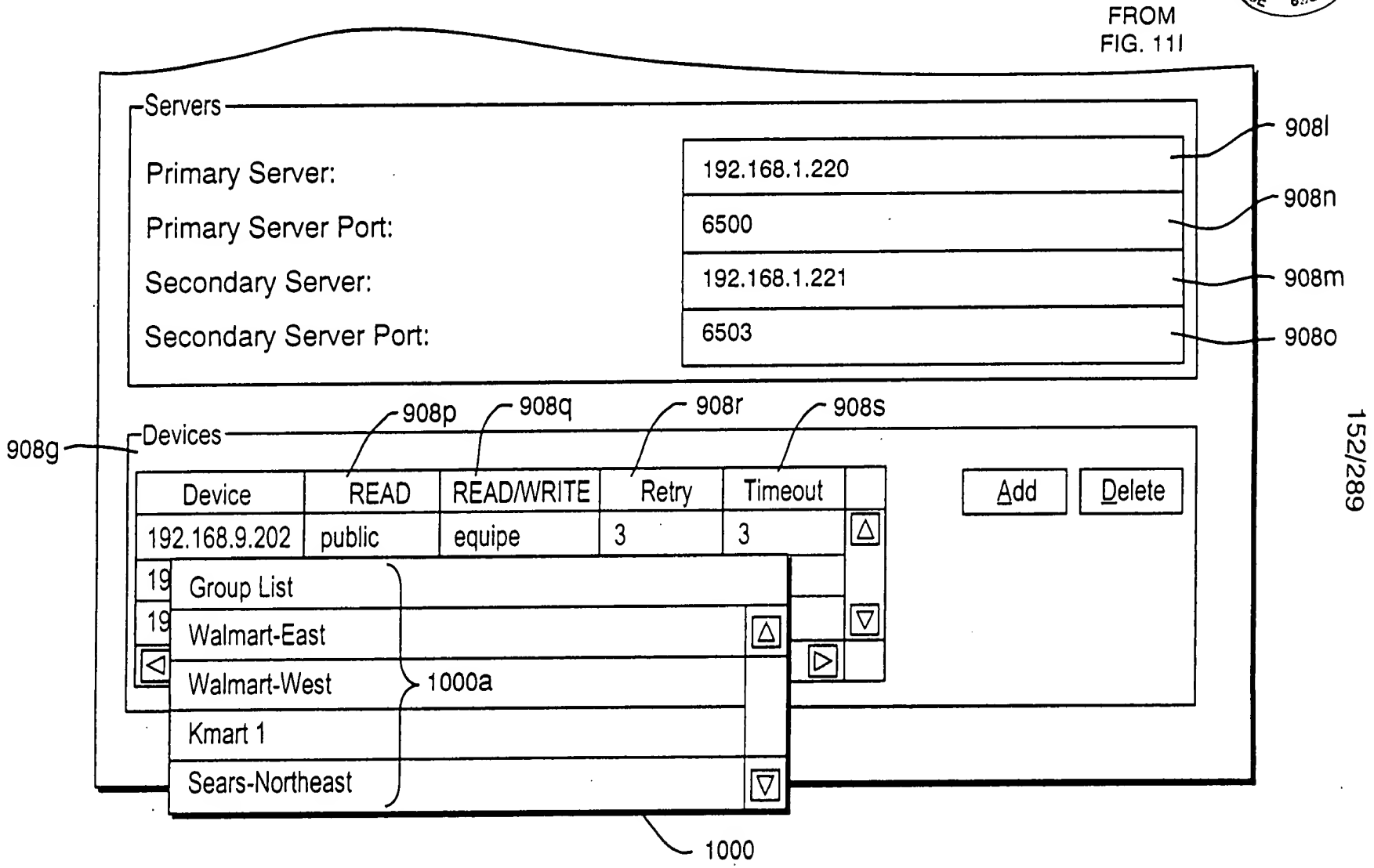


FIG. 11J

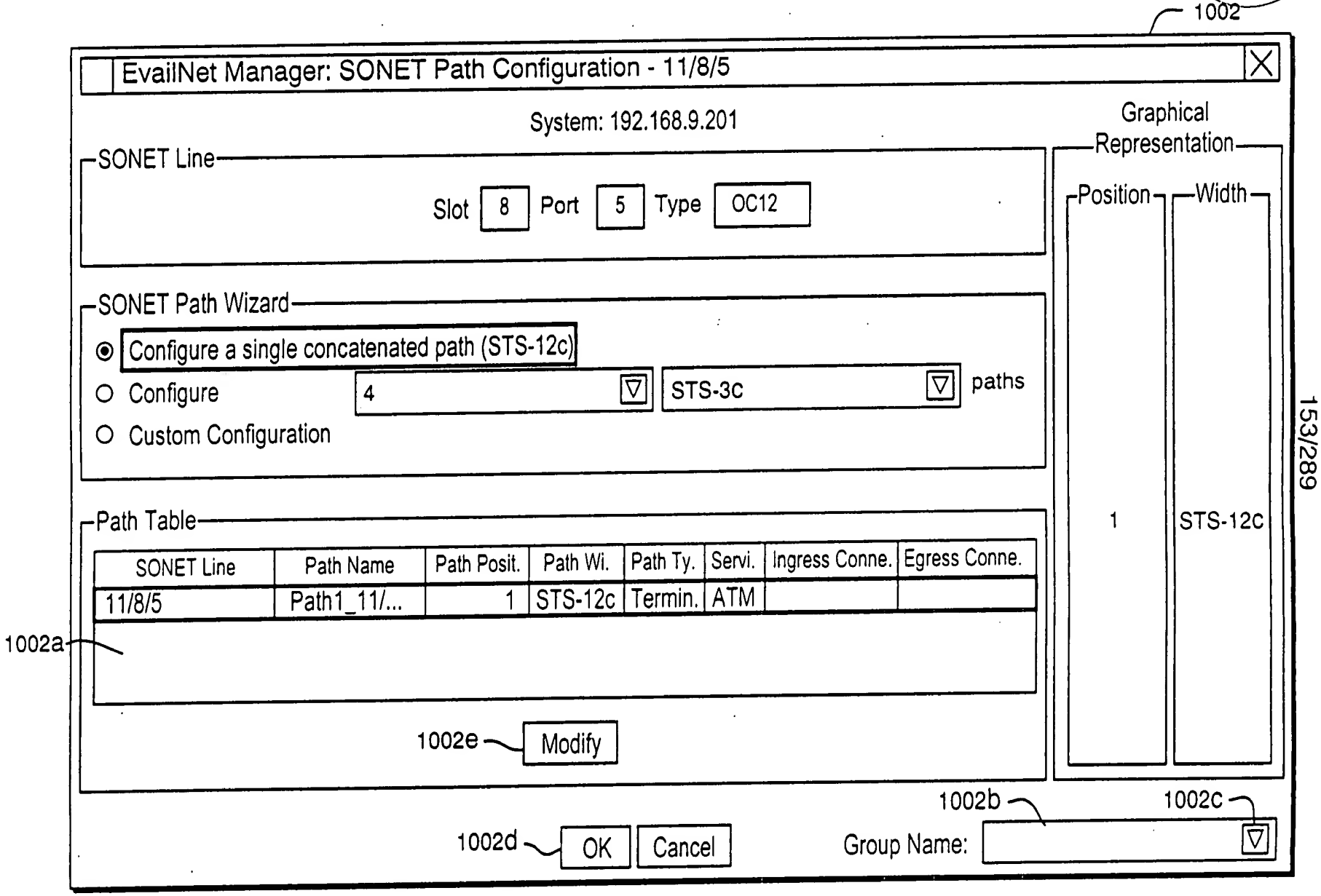


FIG. 11K

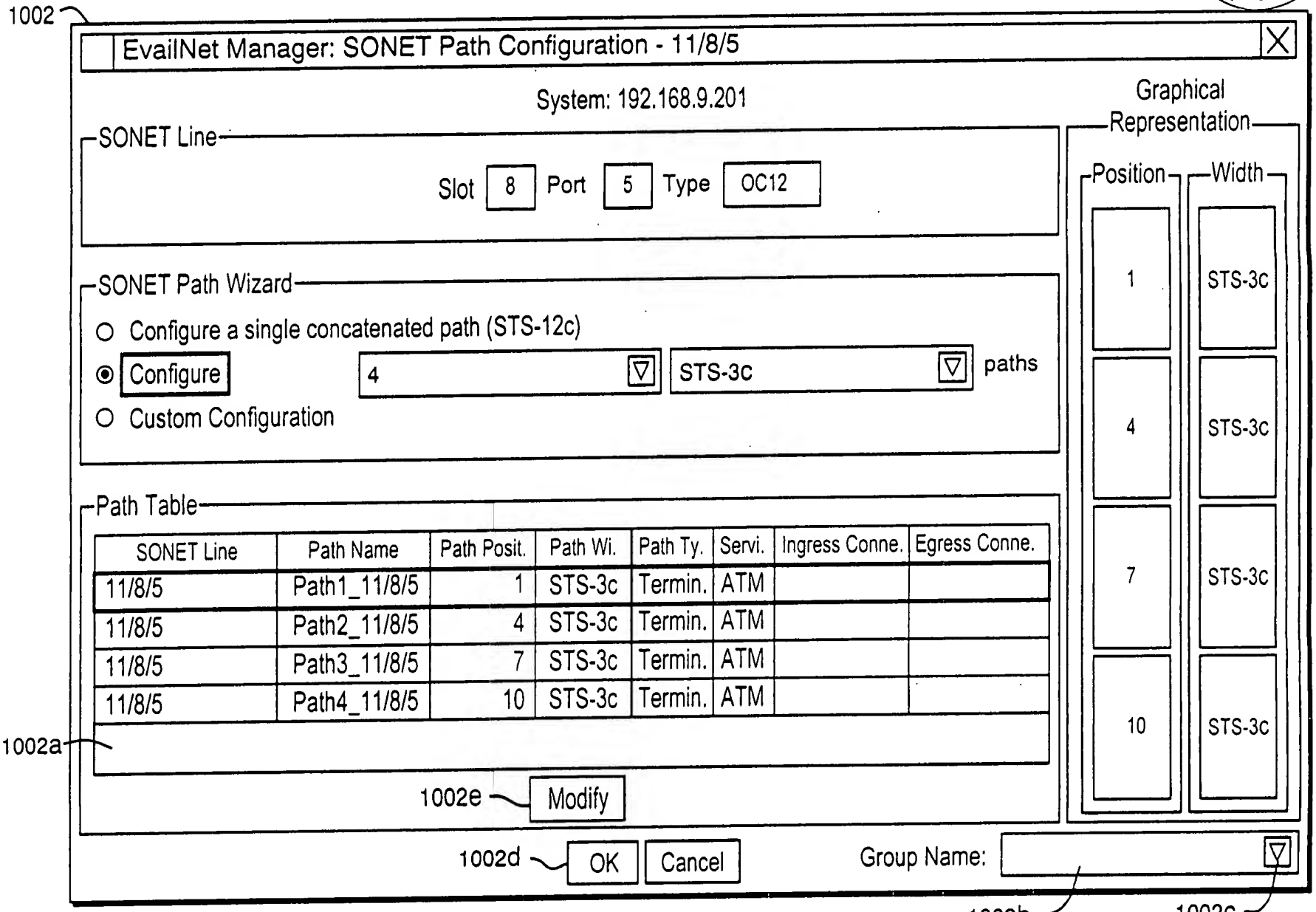


FIG. 11L

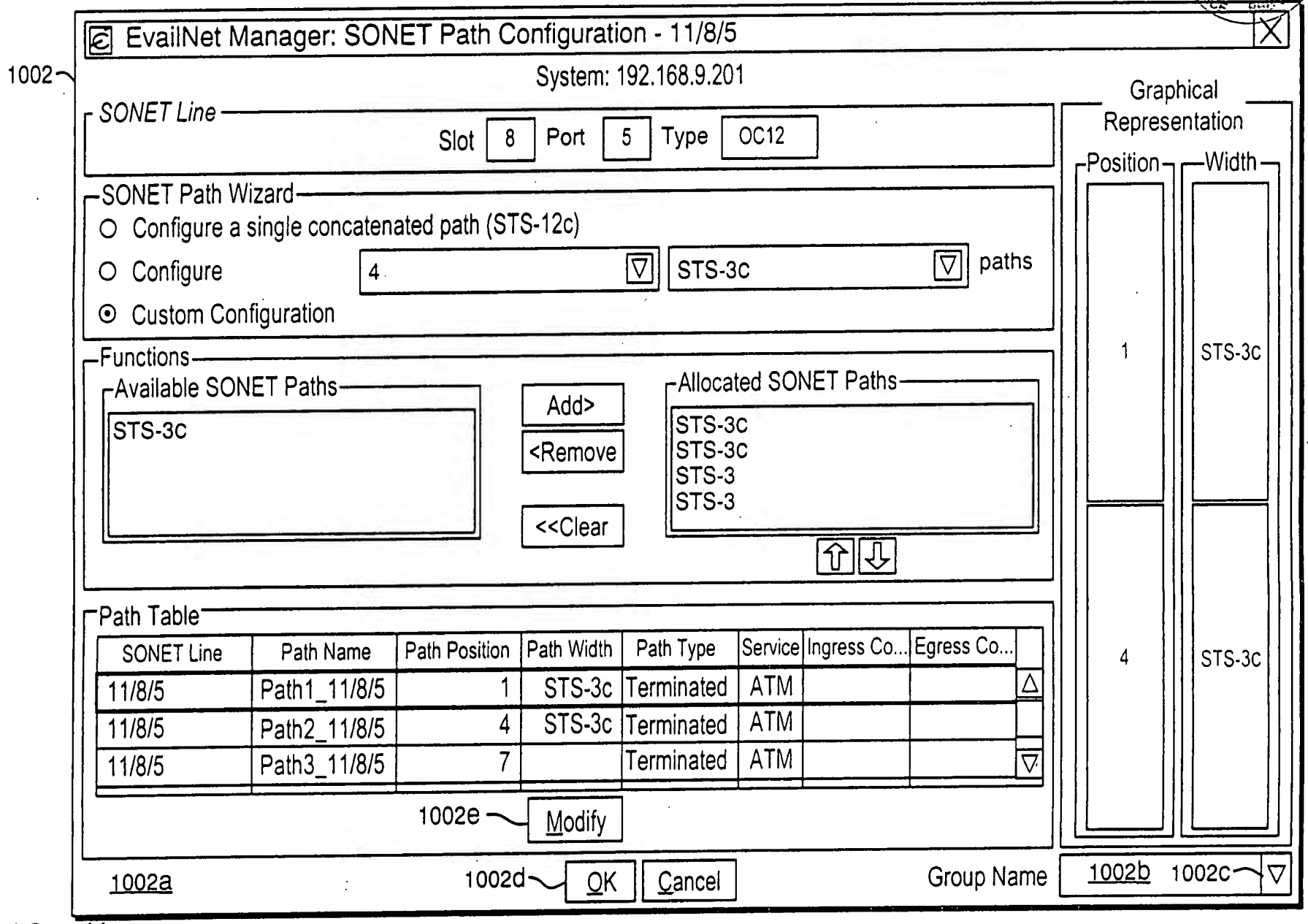


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FIG. 11M

MANAGED RESOURCE GROUP TABLE 1008

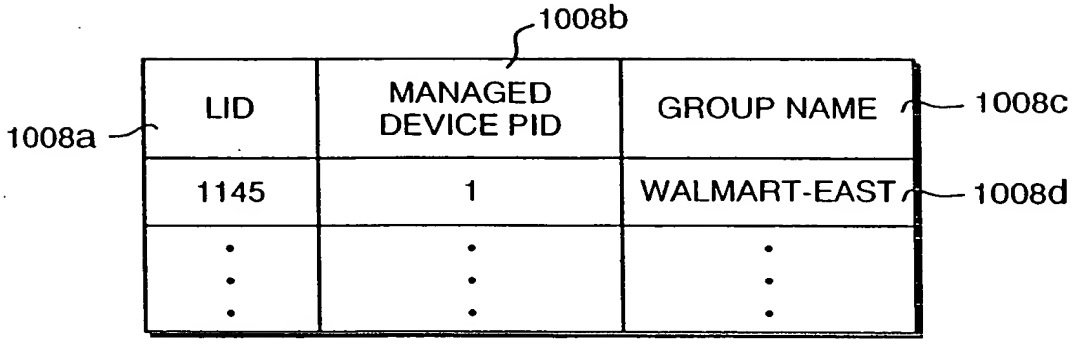


FIG. 11N

MANAGED RESOURCE TABLE 1007

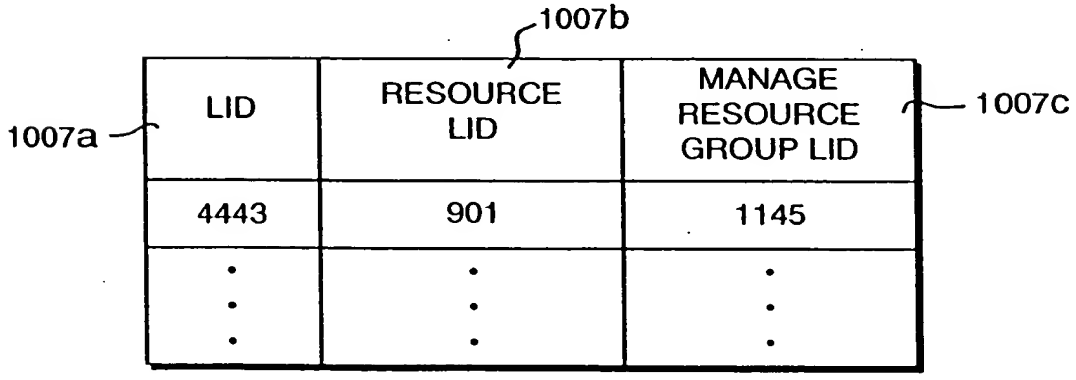


FIG. 11O

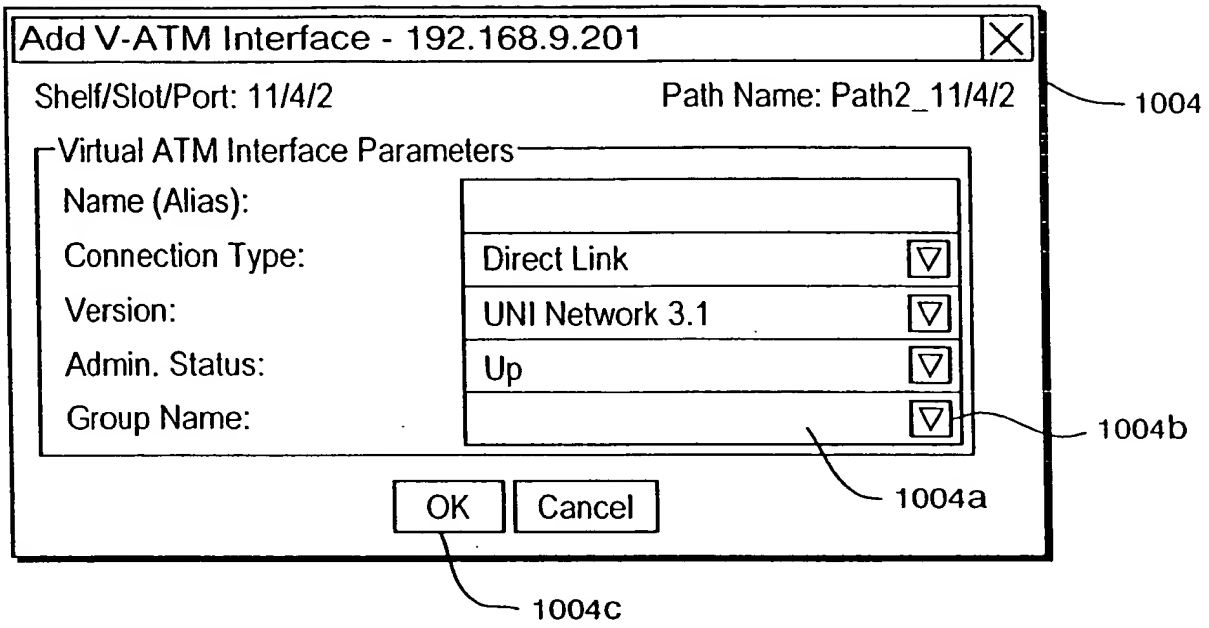


FIG. 11P

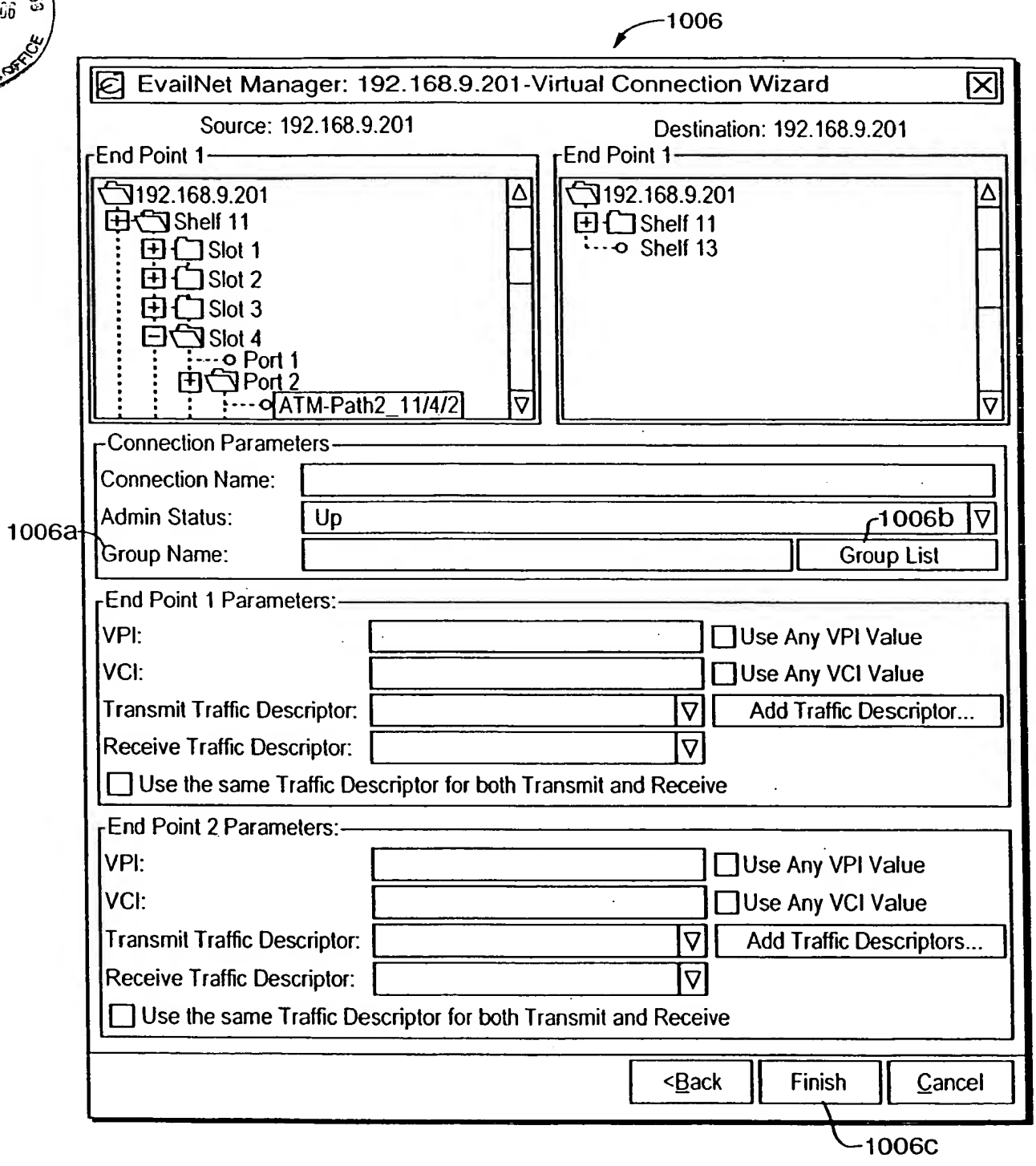


FIG. 11Q

USER TABLE 1010

1010a LID	1010b USERNAME	1010c PASSWORD	1010d GROUP LEVEL ACCESS 1010e
2012	DAVE	MARBLE	PROVISIONER
•	•	•	
•	•	•	
•	•	•	

FIG. 11R

USER MANAGED DEVICE TABLE 1012

1012a LID	1012b USER LID	1012c HOST LID	1012d RETRY	1012e TIMEOUT
7892	2012	9046		
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•

FIG. 11S

ADMINISTRATION MANAGED DEVICE TABLE 1014

LID	HOST ADDRESS	PORT ADDRESS	RETRY	TIMEOUT	ADMIN. PASSWORD	PROV. PASSWORD	VIEWER PASSWORD
9046	192.168.9.202	1521			TEAM 1	TEAM 2	TEAM 3
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .

1014a 1014b 1014c 1014d 1014e

FIG. 11T

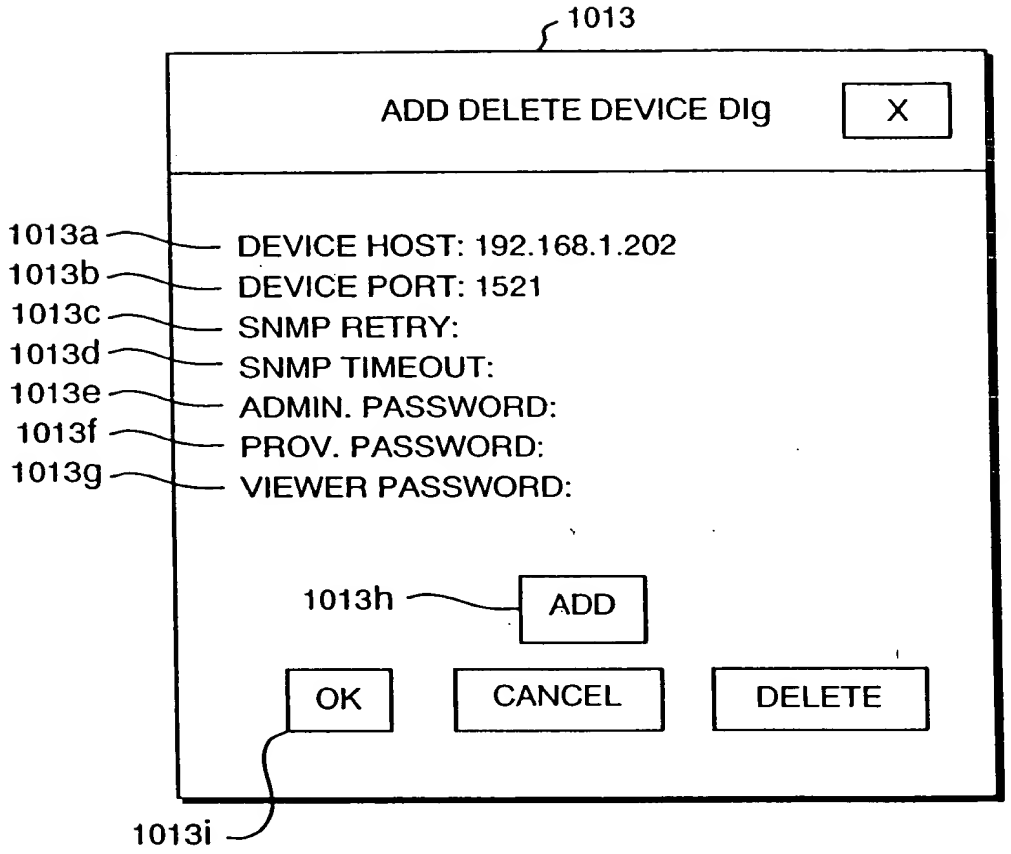


FIG. 11U

USER RESOURCE GROUP MAP TABLE 1016

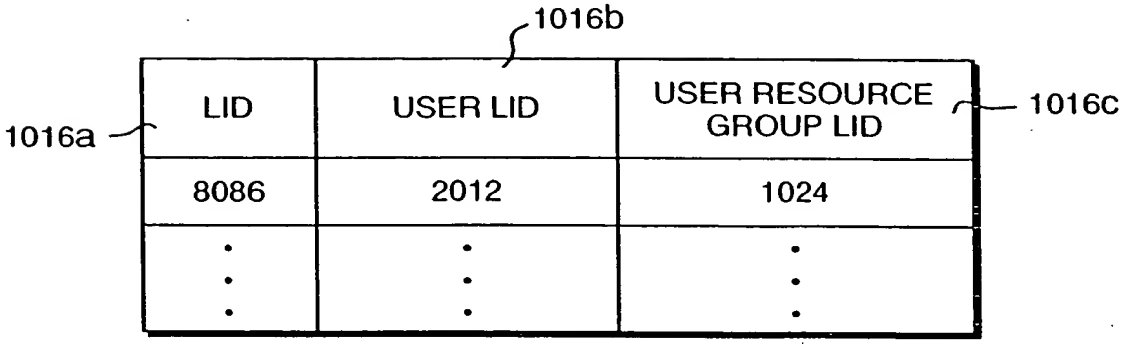


FIG. 11V

USER RESOURCE GROUP TABLE 1018

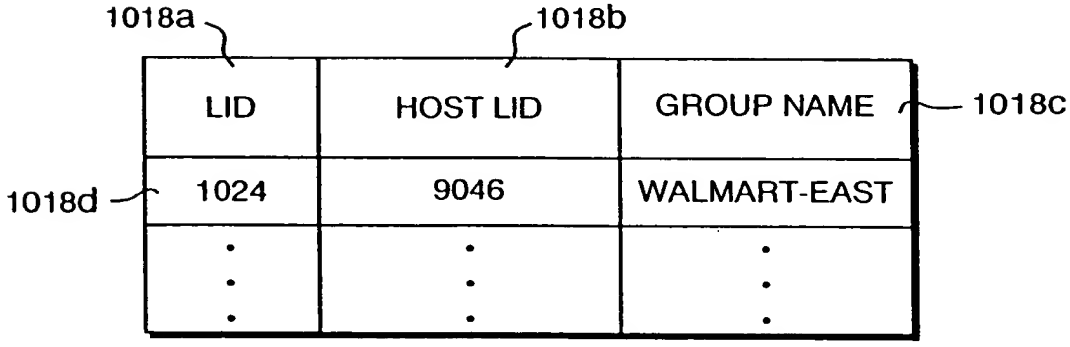


FIG. 11W

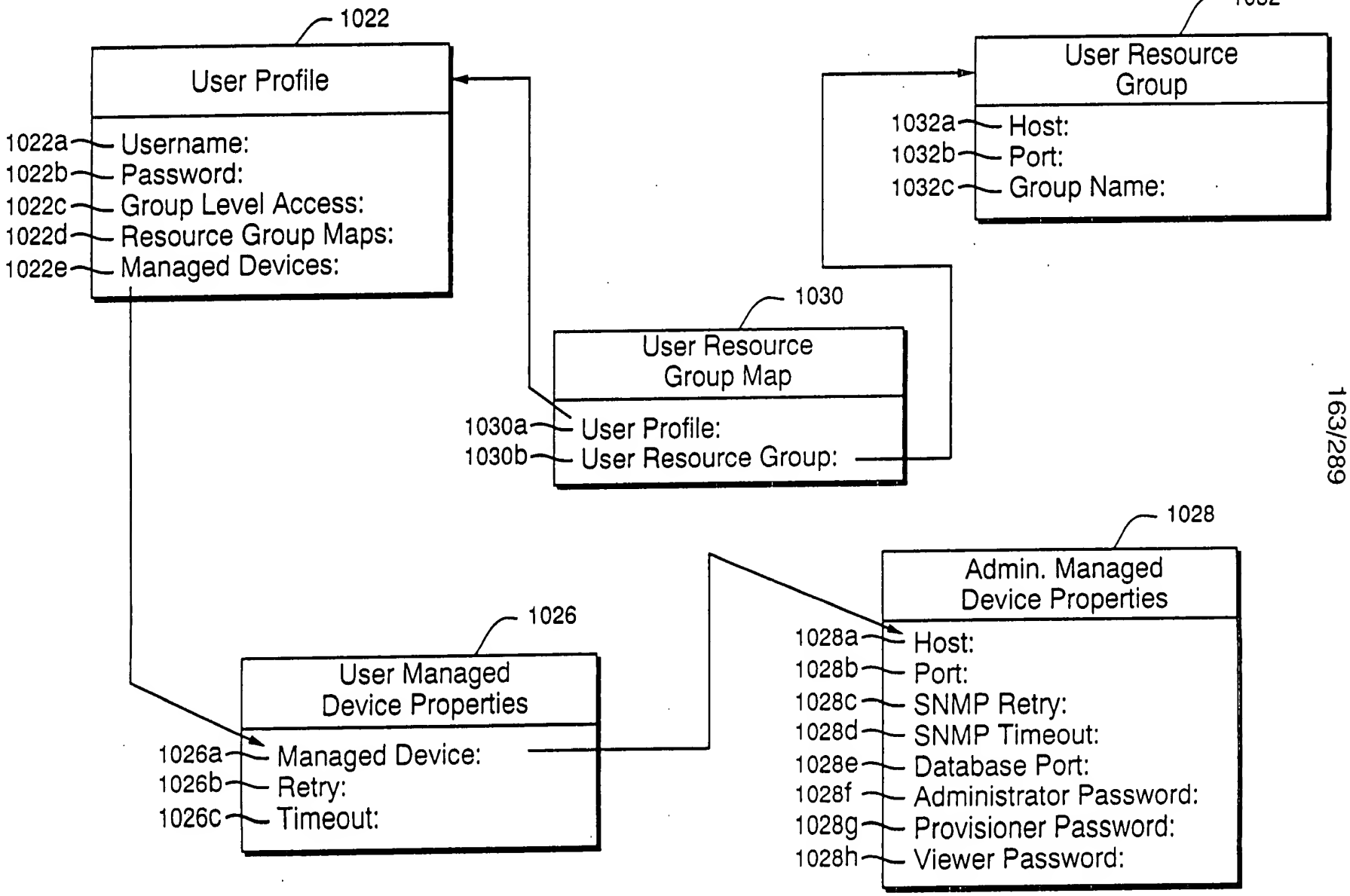


FIG. 11X

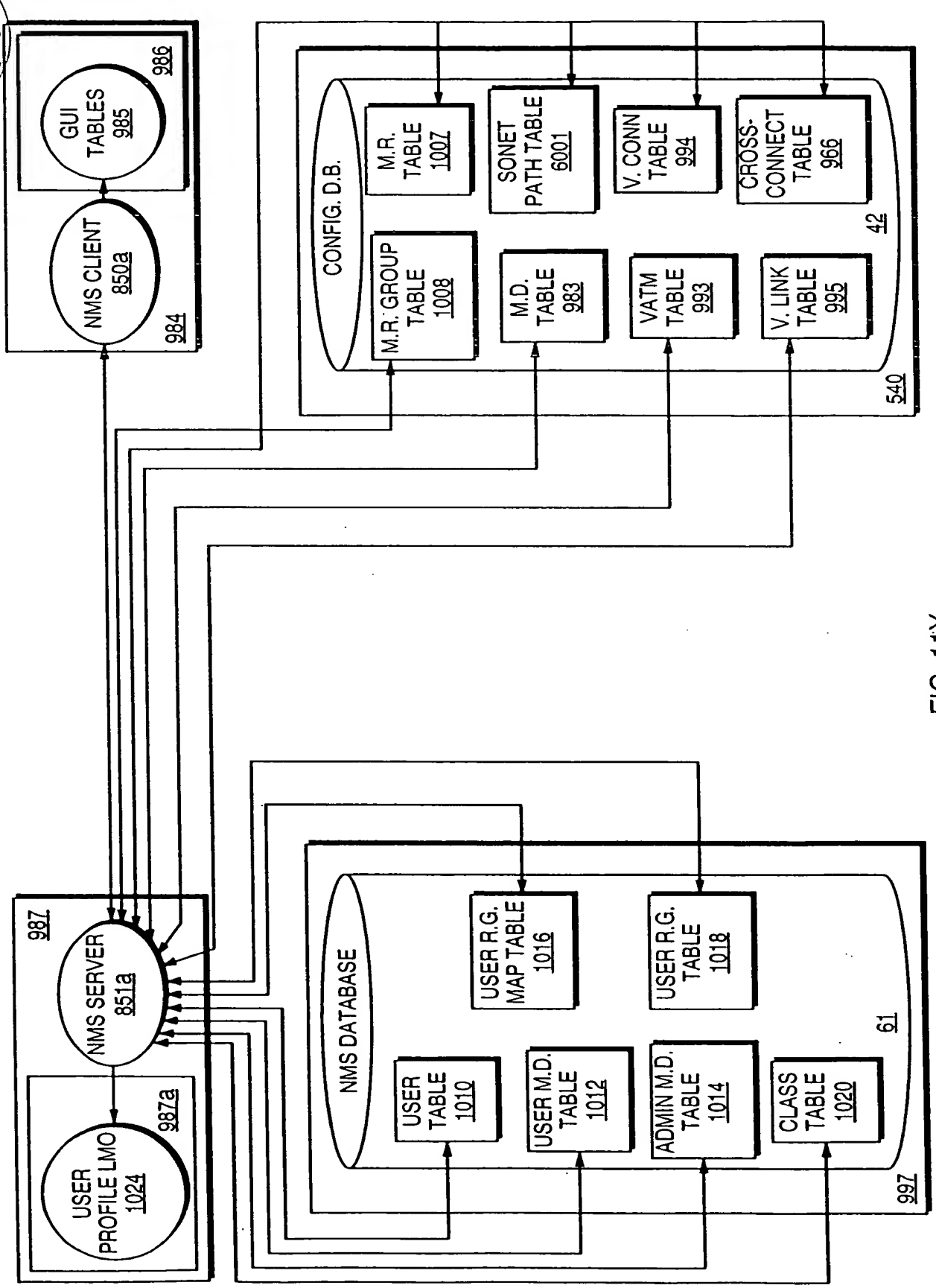


FIG. 11Y

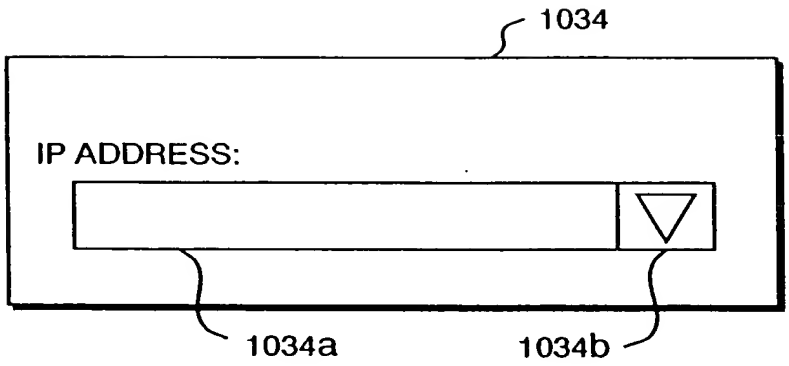


FIG. 11Z

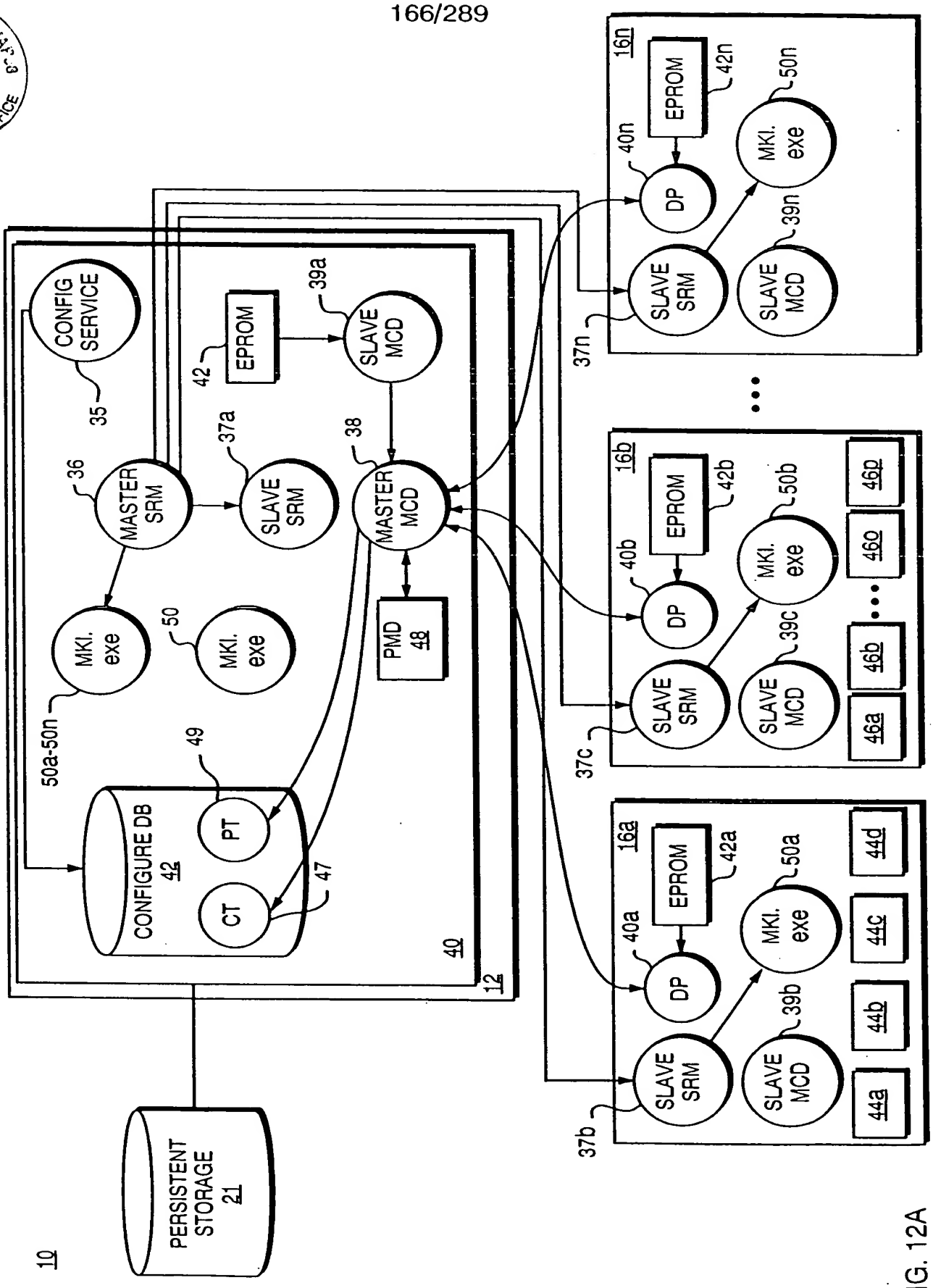


FIG. 12A

CARD TABLE 47

	PID	CWD TYPE	VERSION NO.	SLOT NO.	...
16a	500	0XF002	3	1	
16b	501	0XF002	4	2	
	• • •	• • •	• • •	• • •	• • •
16e	505	0X6002	1	5	
	• • •	• • •	• • •	• • •	• • •
16n	513	0XF002	1	12	
	• • •	• • •	• • •	• • •	• • •

FIG. 12B

PORT TABLE 49

	PID	PORT TYPE	VERSION NO.	SLOT NO.	...
44a	1500	00620	1	1	
44b	1501	00620	1	1	
44c	1502	00620	1	1	
44d	1503	00620	1	1	
44a	1504	00820			
46a	⋮	⋮	⋮	⋮	⋮
	1600	OO620	1	8	
	⋮	⋮	⋮	⋮	⋮

FIG. 12C

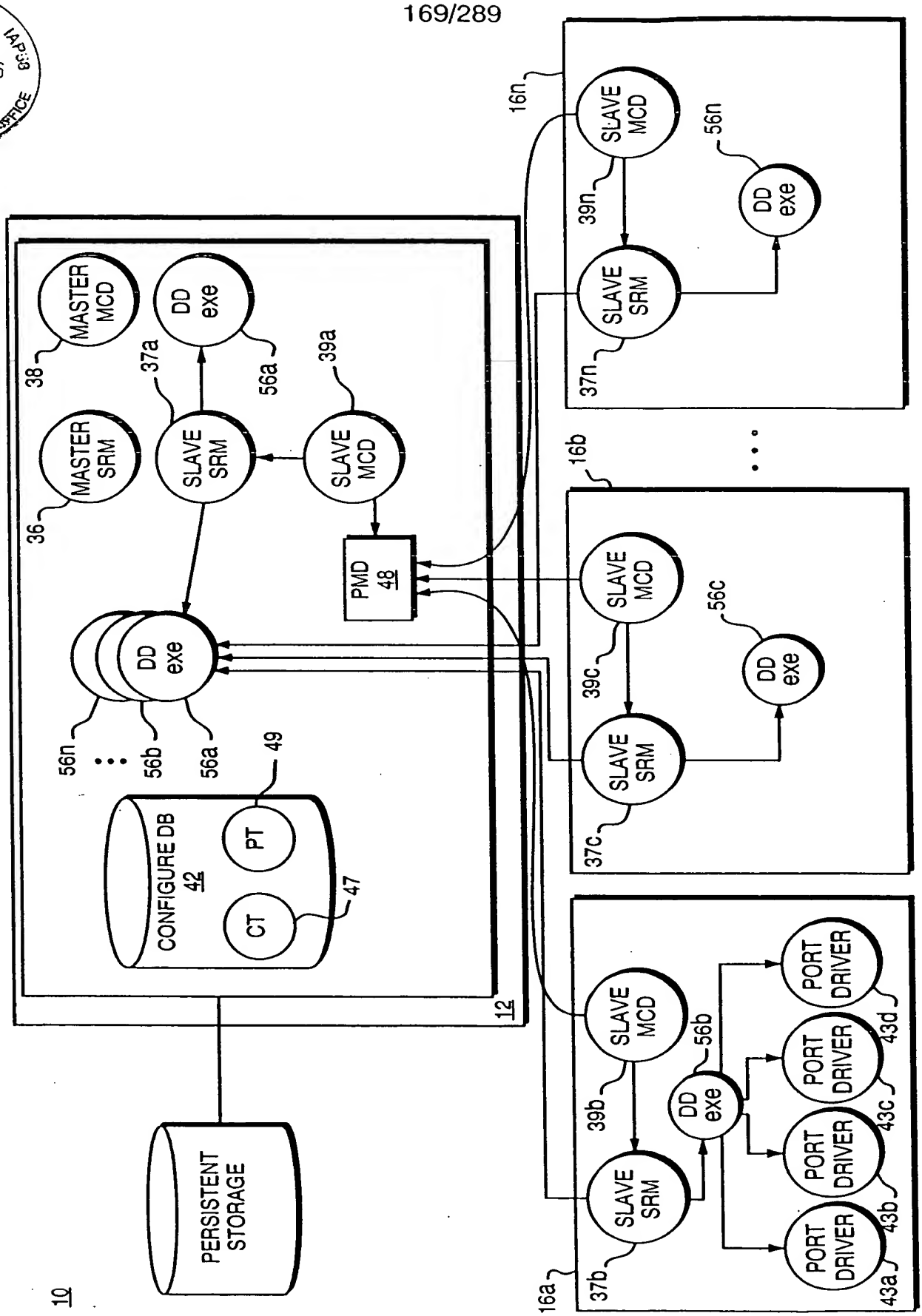


FIG. 13A

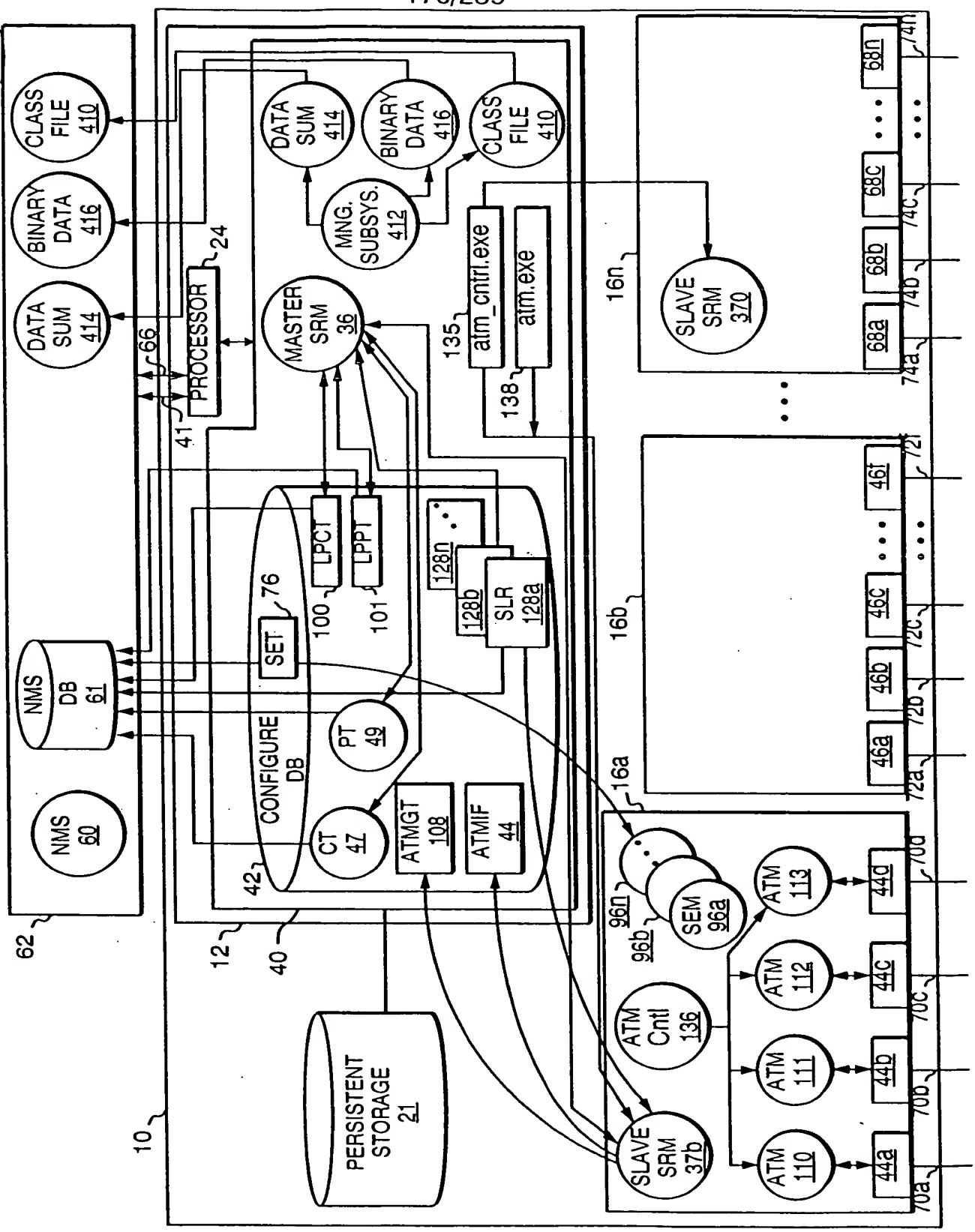


FIG. 13B

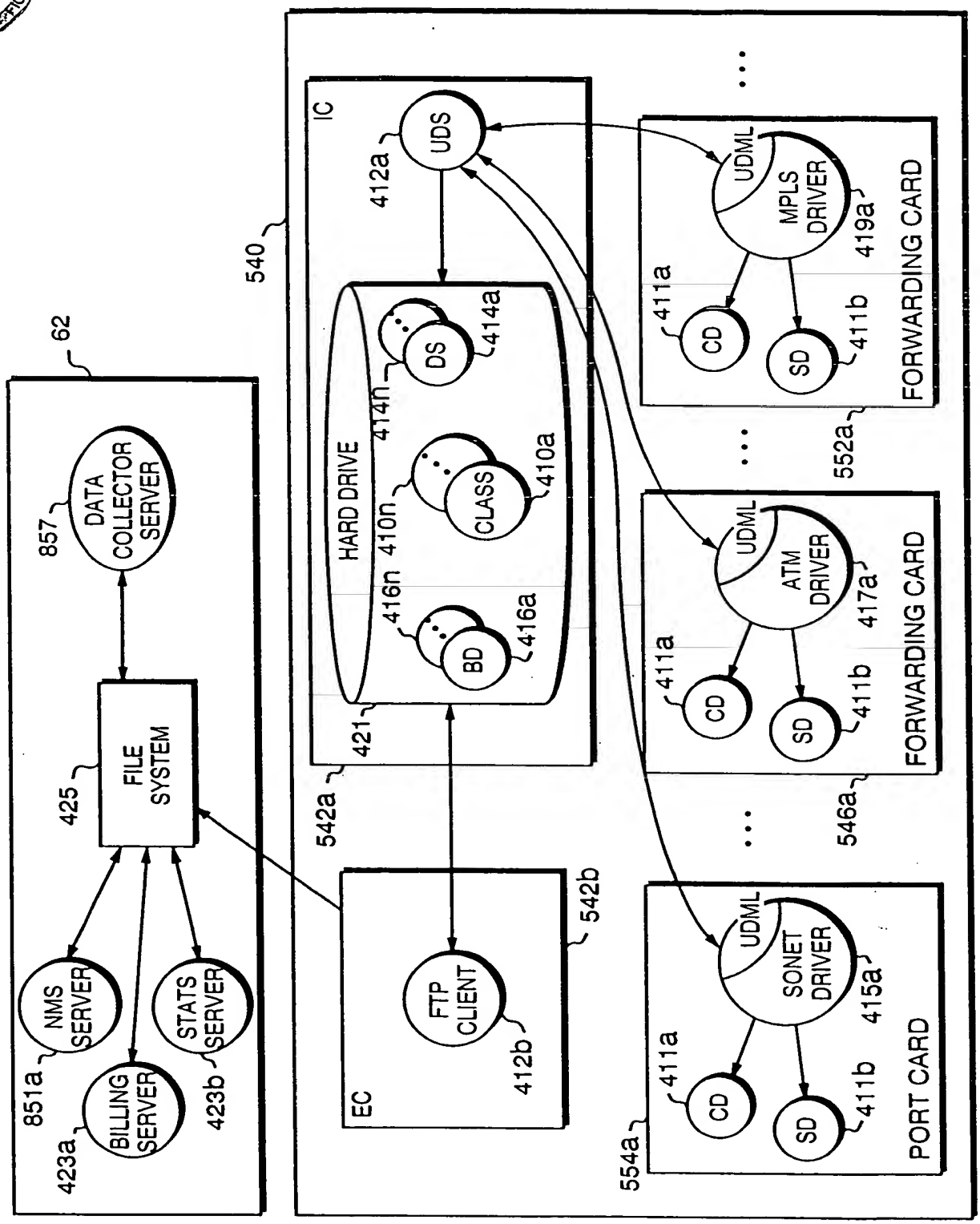


FIG. 13C

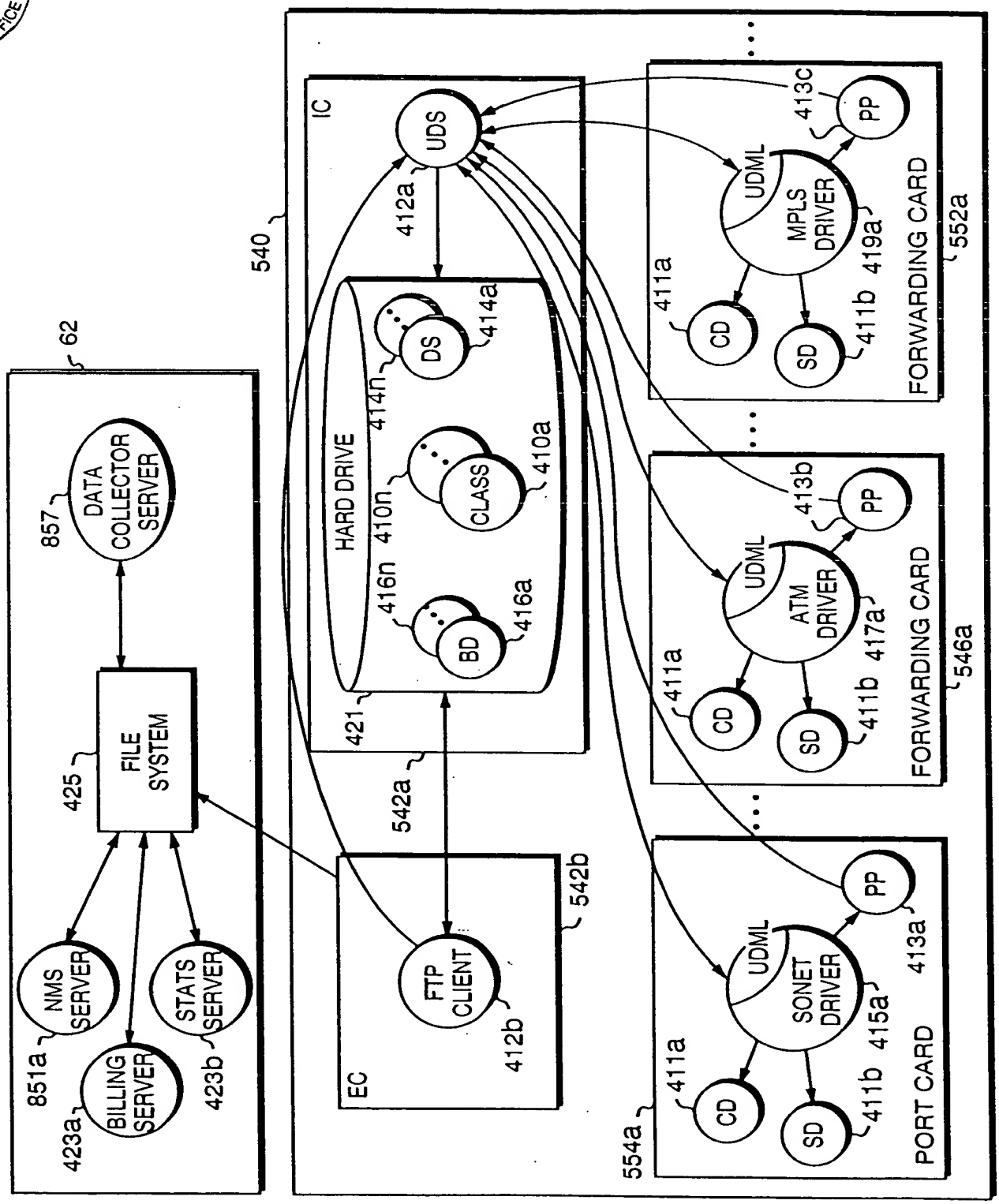


FIG. 13D

SERVICE ENDPOINT TABLE 76

	SERVICE ENDPOINT #	PORT PID
78	1	1500
80	2	1501
82	3	1501
84	4	1501
86	5	1502
88	6	1502
90	7	1503
92	8	1503
94	9	1503
168	10	1502
	. . .	. . .

FIG. 14A

LOGICAL TO PHYSICAL CARD TABLE 100

	98 LID	102 PRIMARY PID	104 BACK-UP PID
106	30	500	513
109	31	501	513
	. . .	. . .	. . .

FIG. 14B

LOGICAL TO PHYSICAL PORT TABLE 101

	98 LID	102 PRIMARY PID	104 BACK-UP PID
107	40	1500	1600
	. . .	. . .	. . .

FIG. 14C

ATM GROUP TABLE 108

GROUP #	CARD LID	...
1	30	
2	30	
3	30	
4	30	

FIG. 14D

ATM INTERFACE TABLE 114

ATM IF	ATM GROUP	SE	...
1	1	1	
2	1	1	
3	1	1	
4	2	2	
5	2	3	
6	2	4	
. . .	. . .	. . .	. . .
12	3	10	
. . .	. . .	. . .	. . .

170

FIG. 14E

SOFTWARE LOAD RECORD 128a

130 CONTROL SHIM	LID 132
134 atm-cntl.exe	30

FIG. 14F

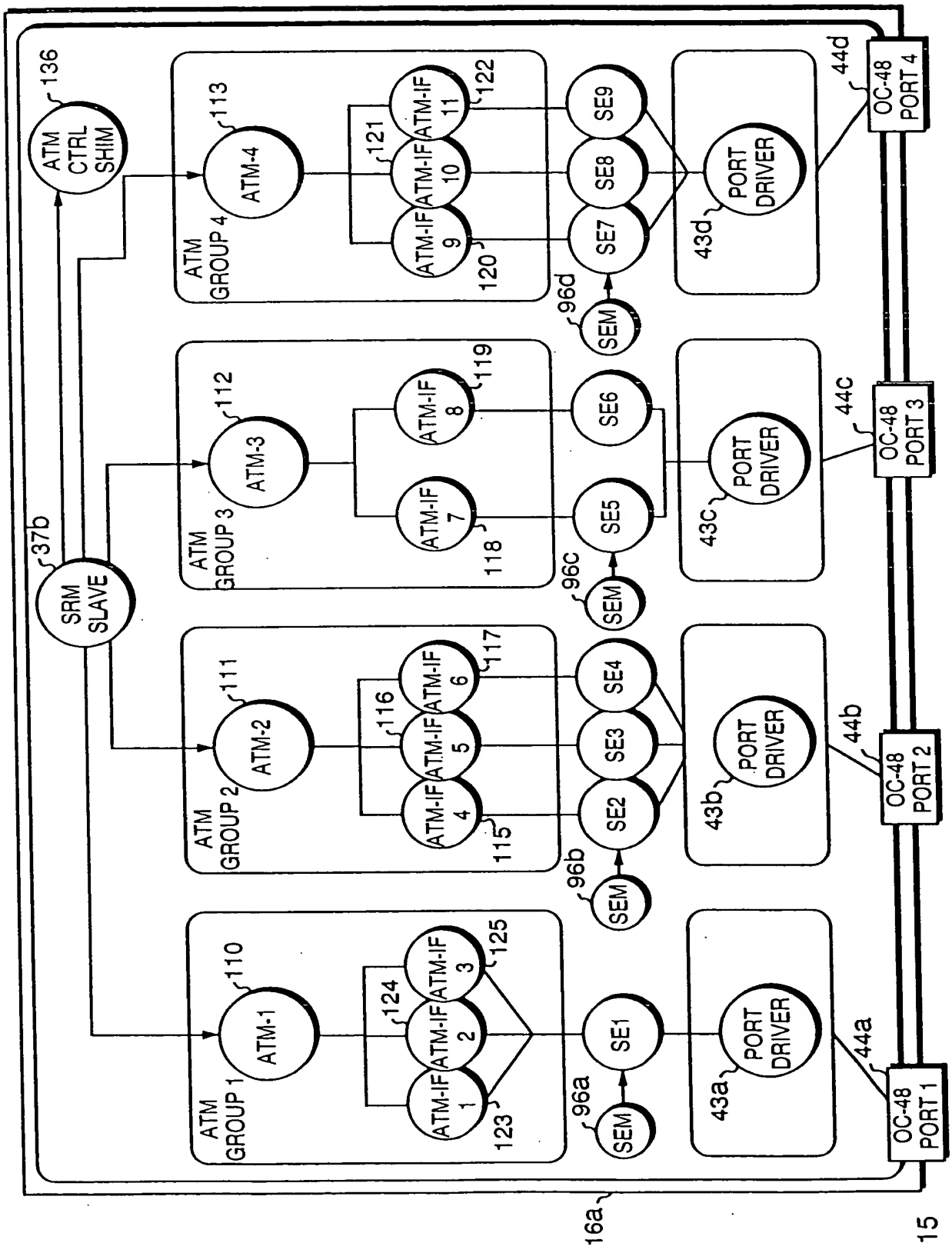


FIG. 15

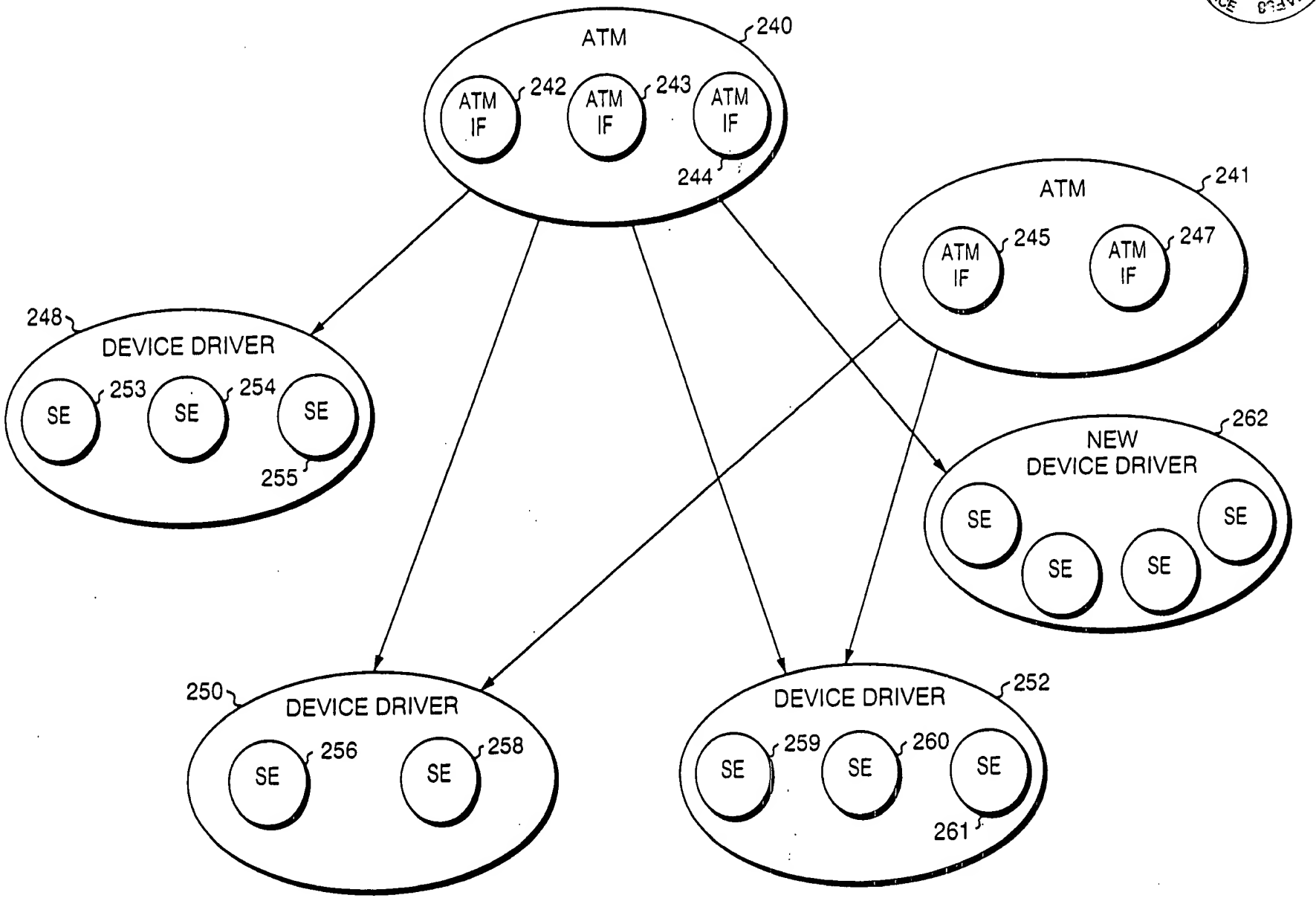


FIG. 16A

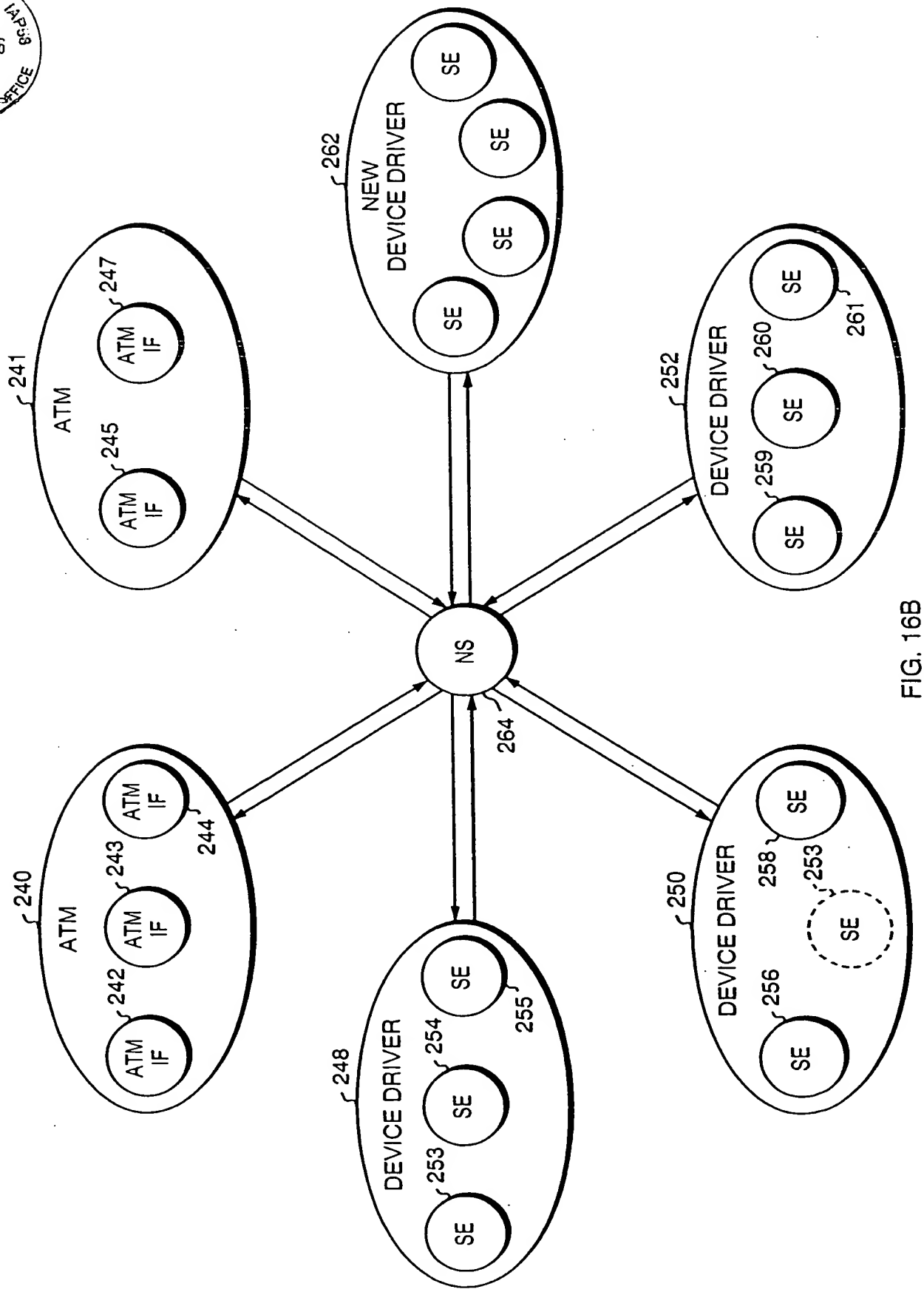


FIG. 16B

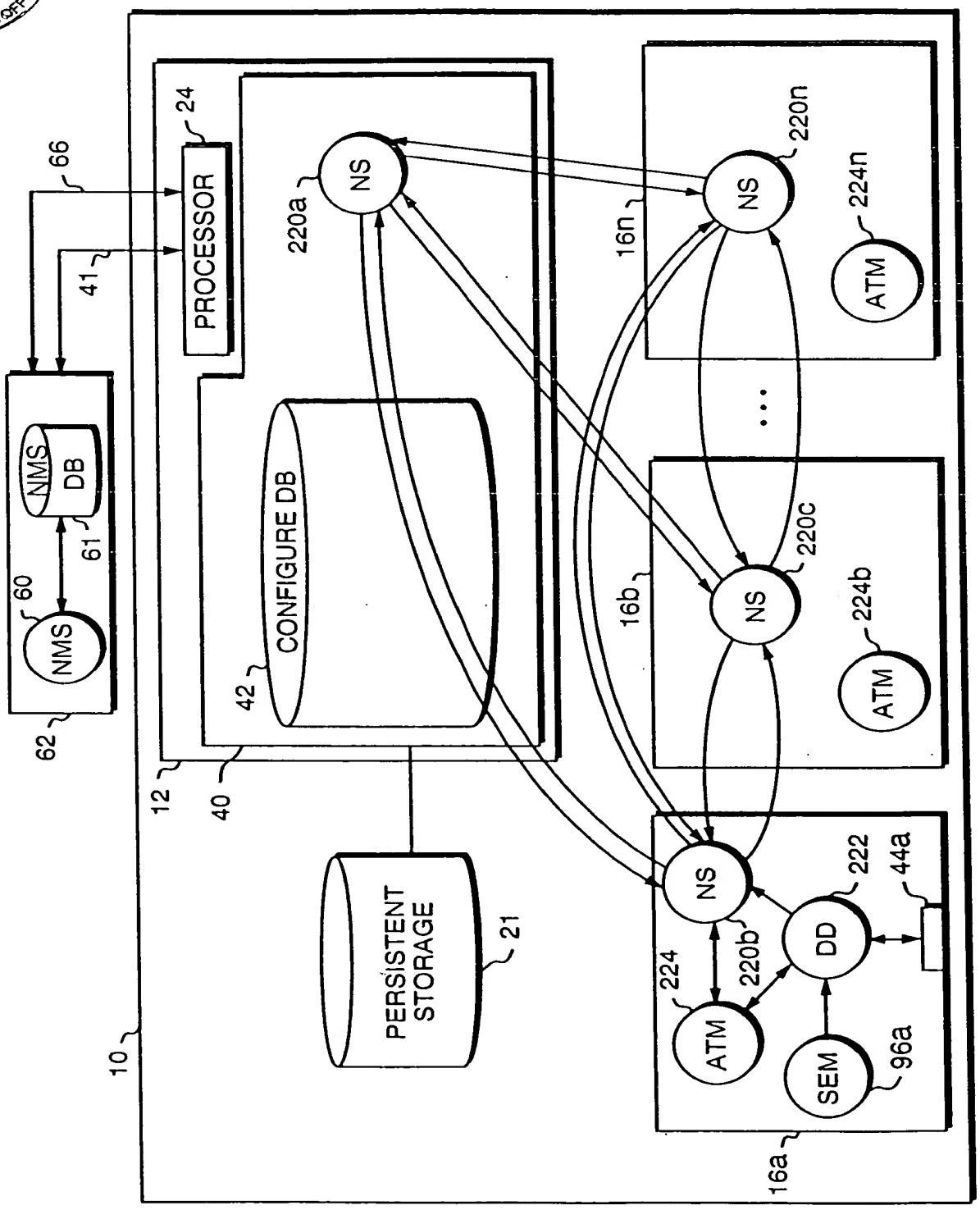


FIG. 16C

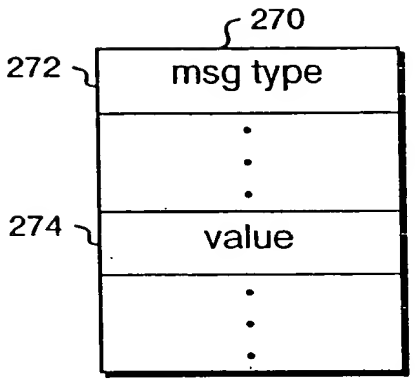


FIG. 16D

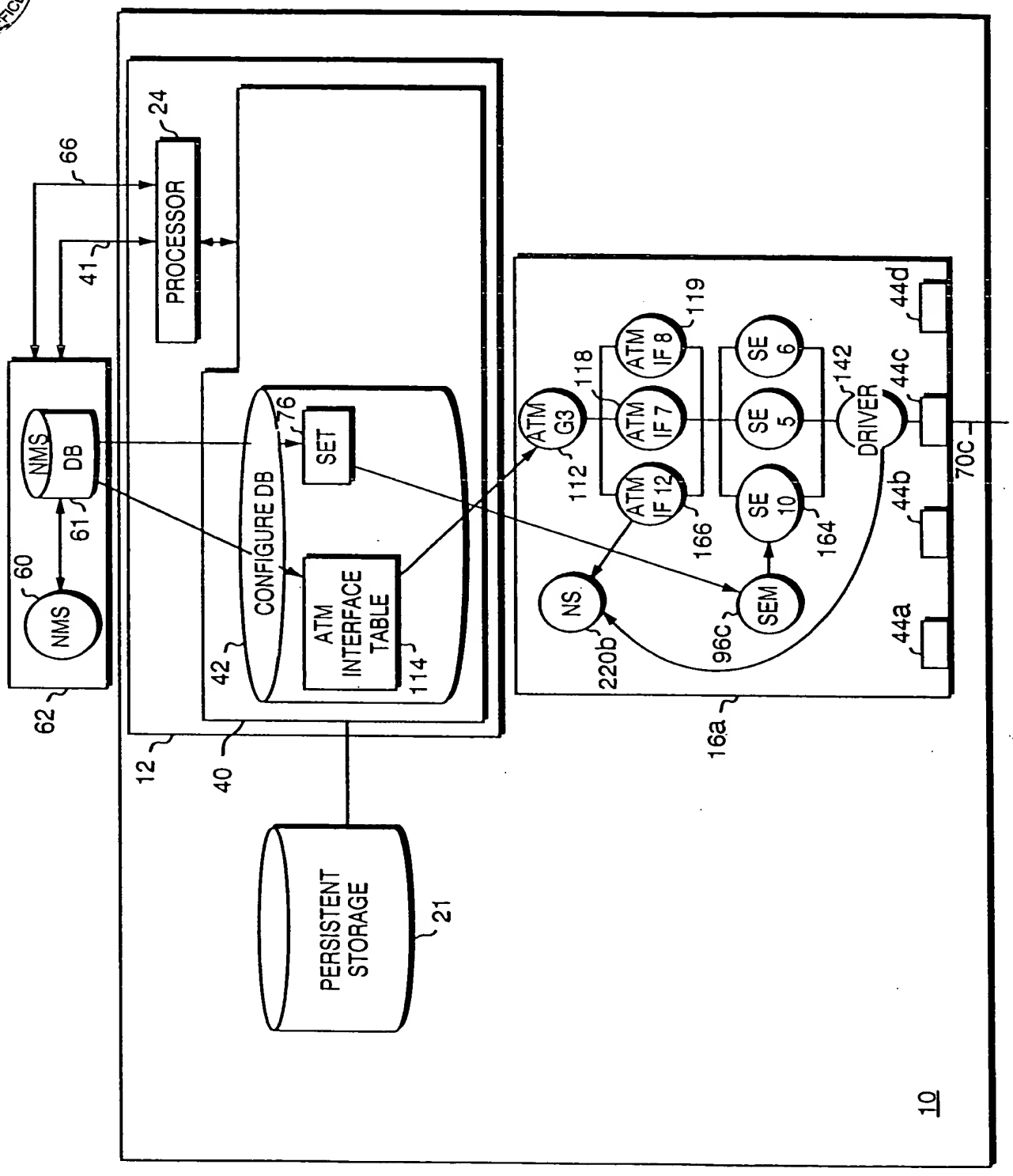


FIG. 17

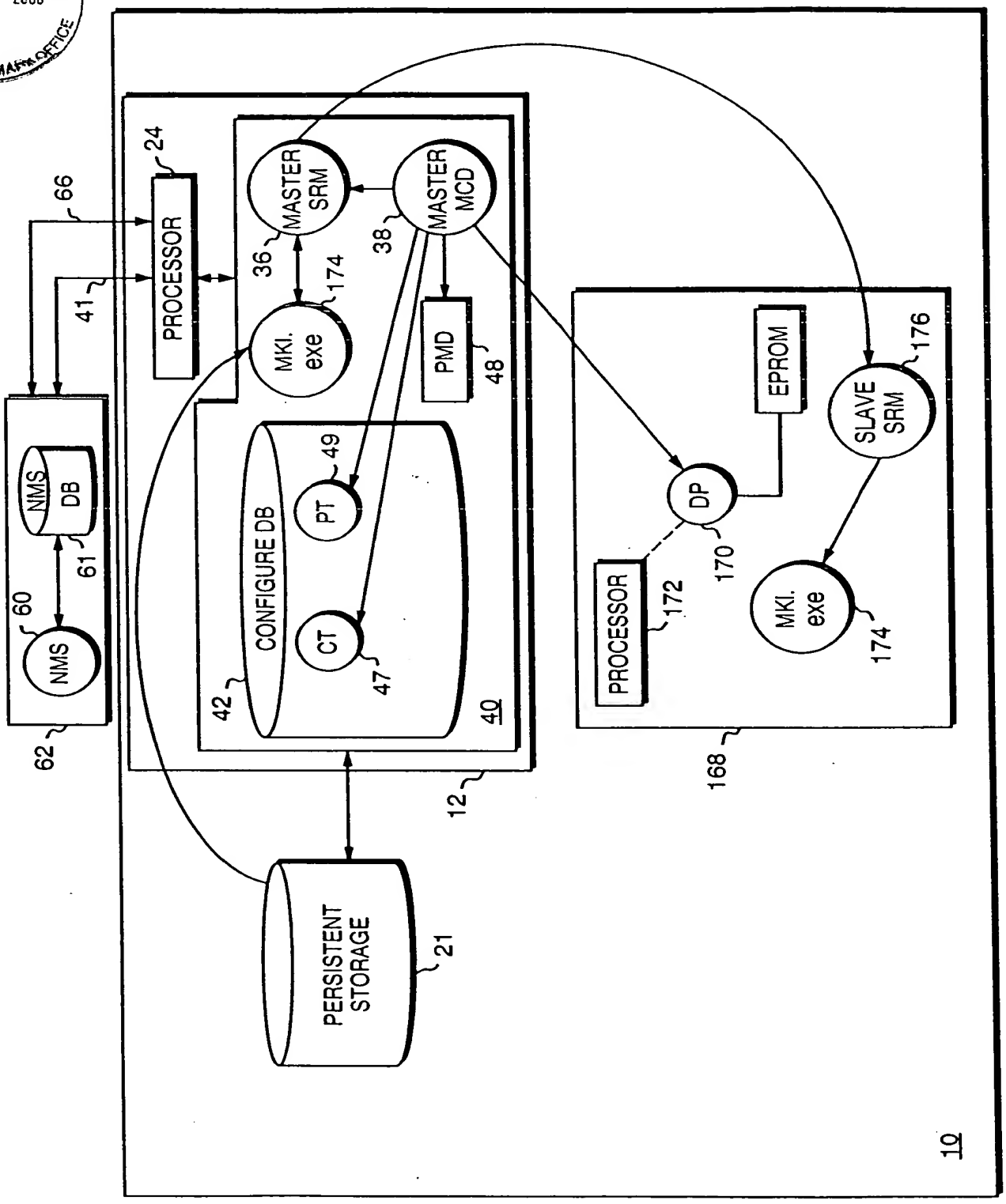


FIG. 18

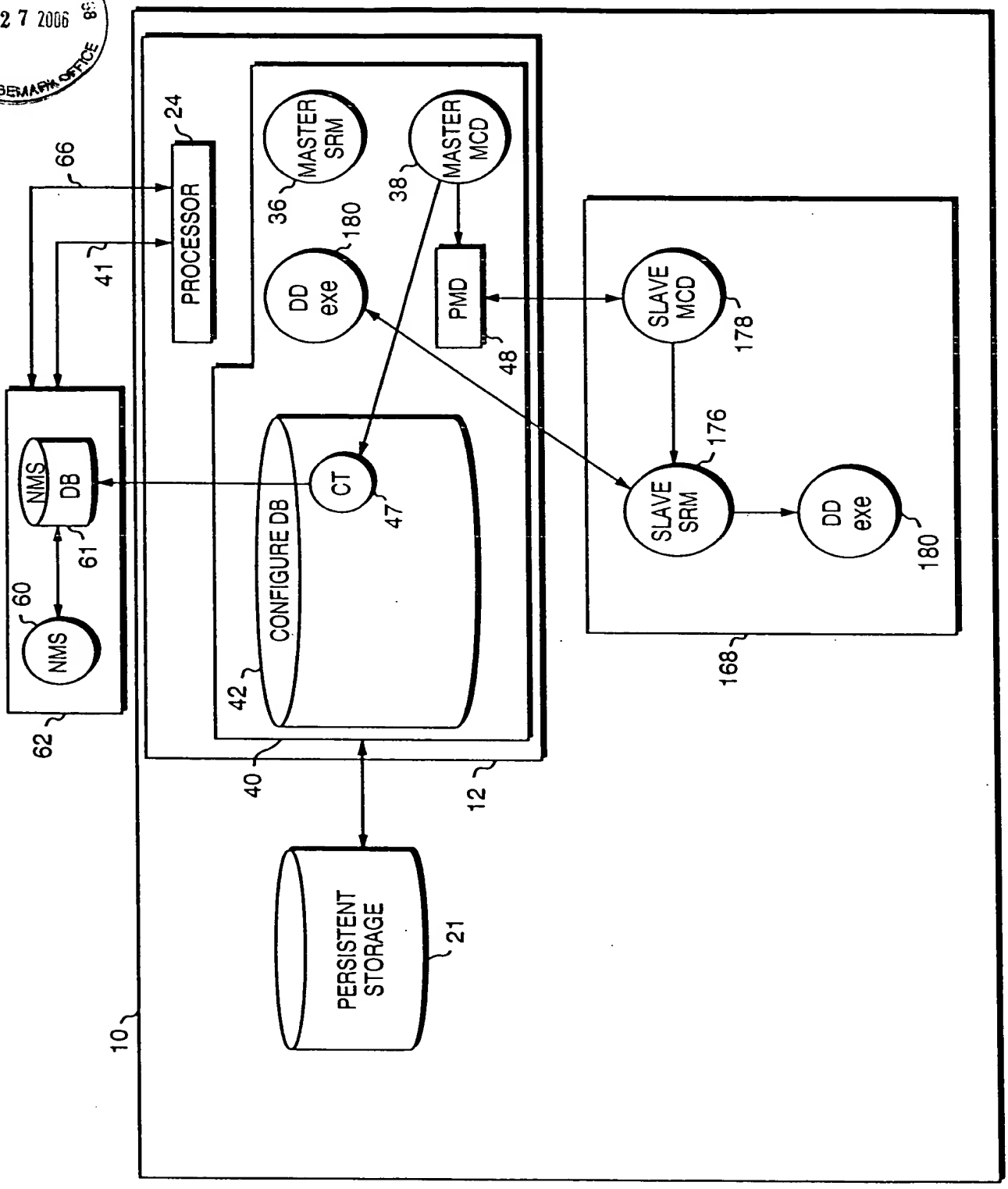


FIG. 19

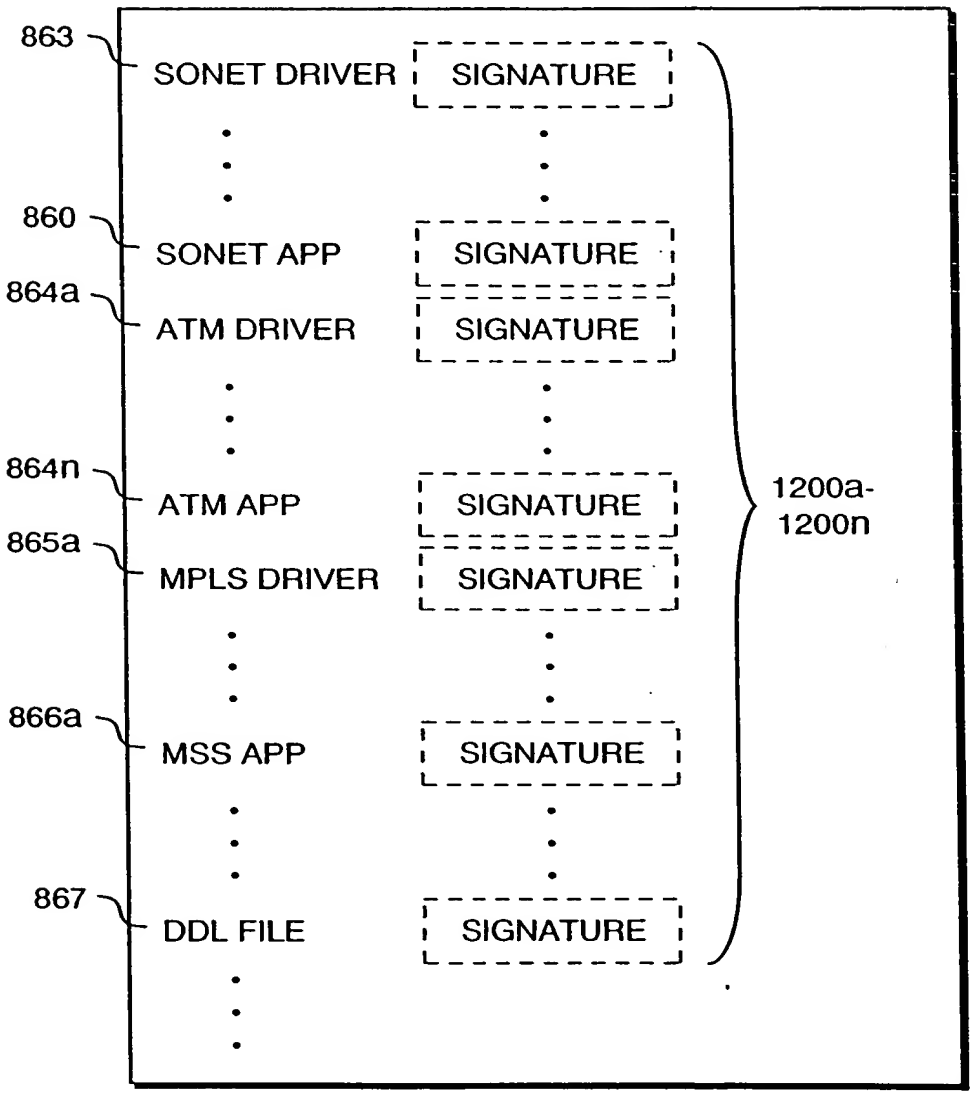


FIG. 20A

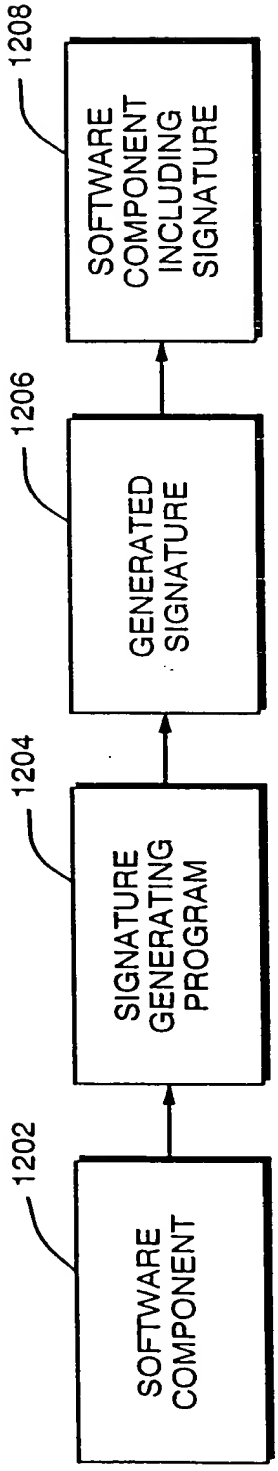


FIG. 20B

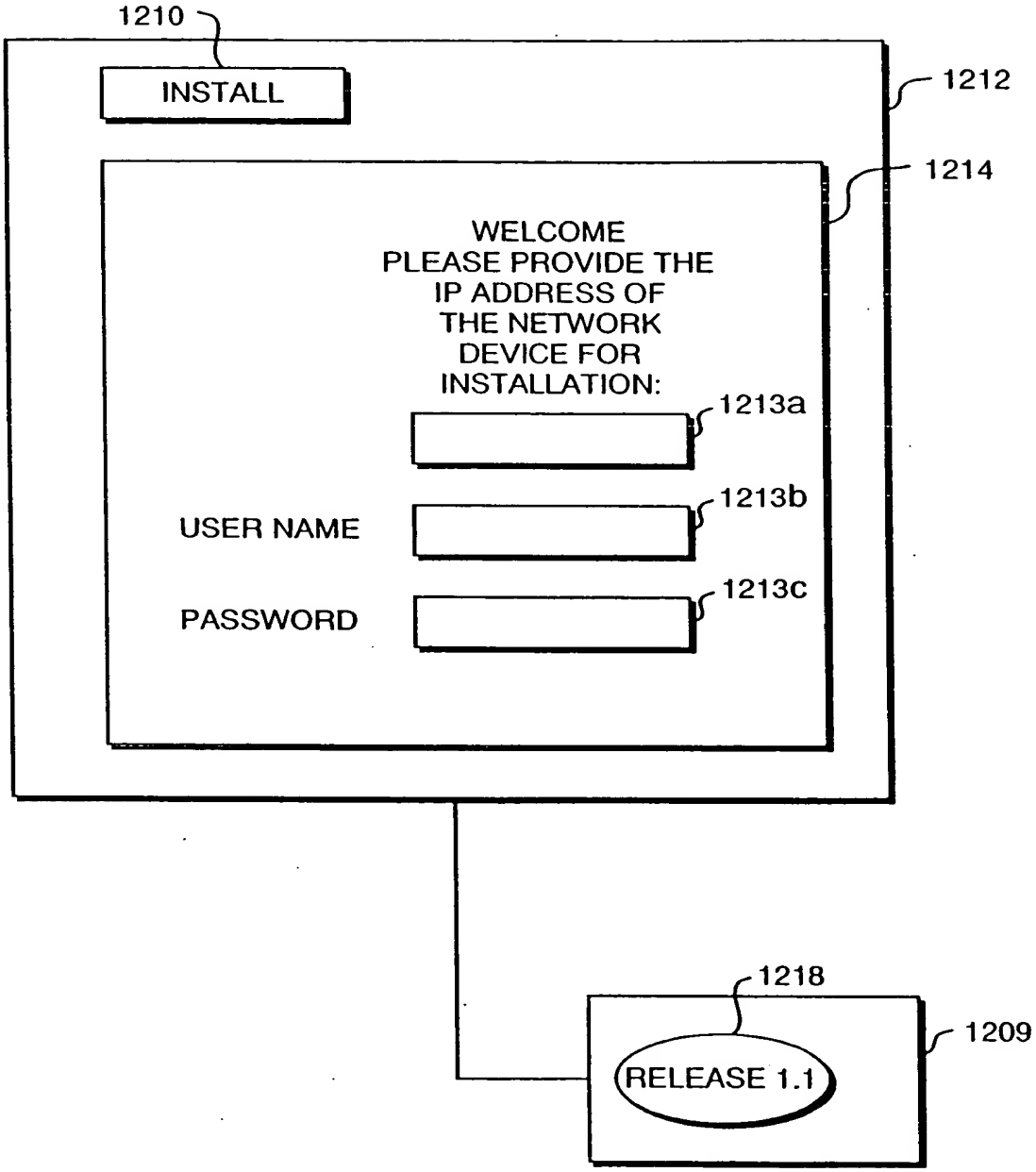


FIG. 20C

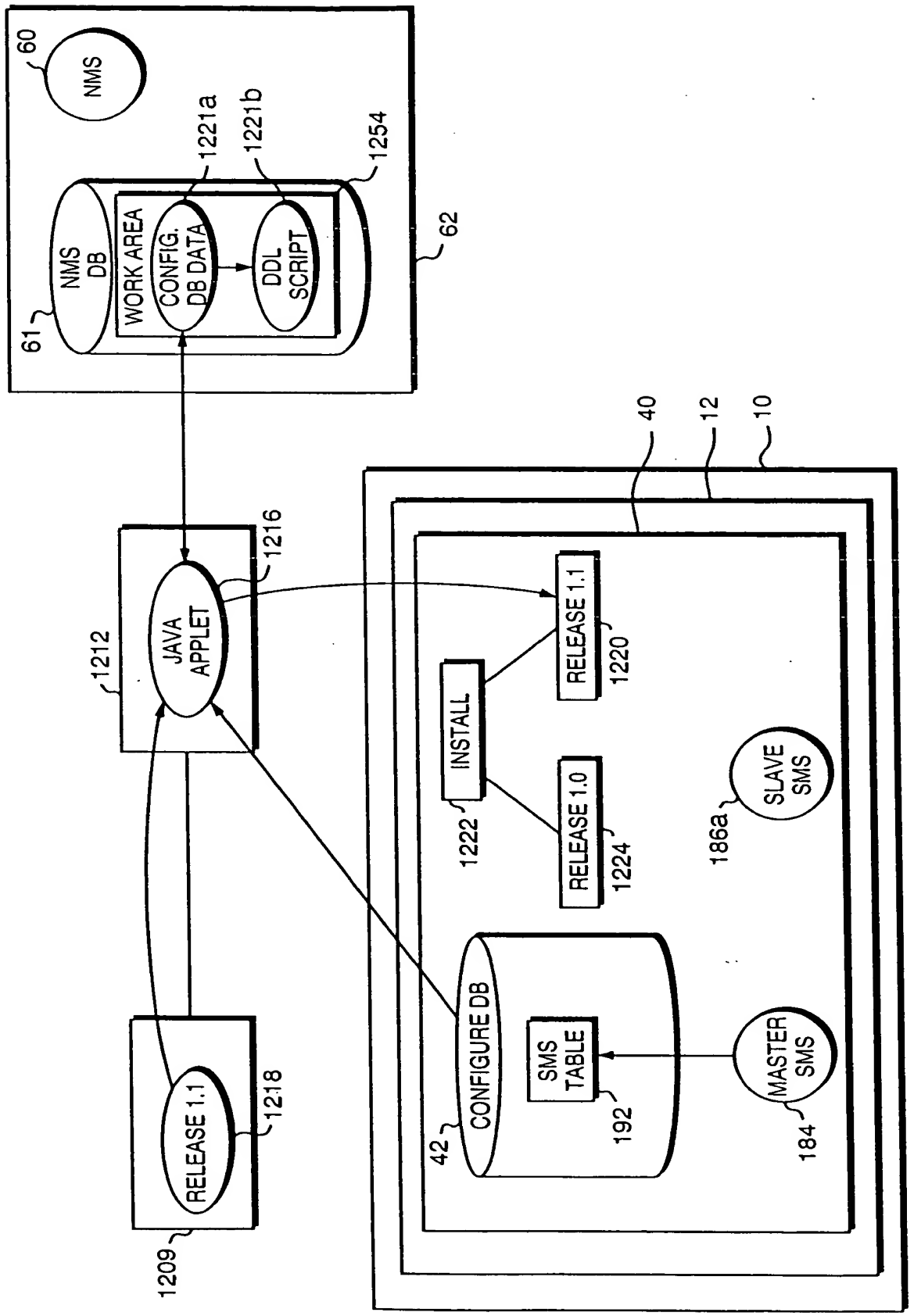


FIG. 20D

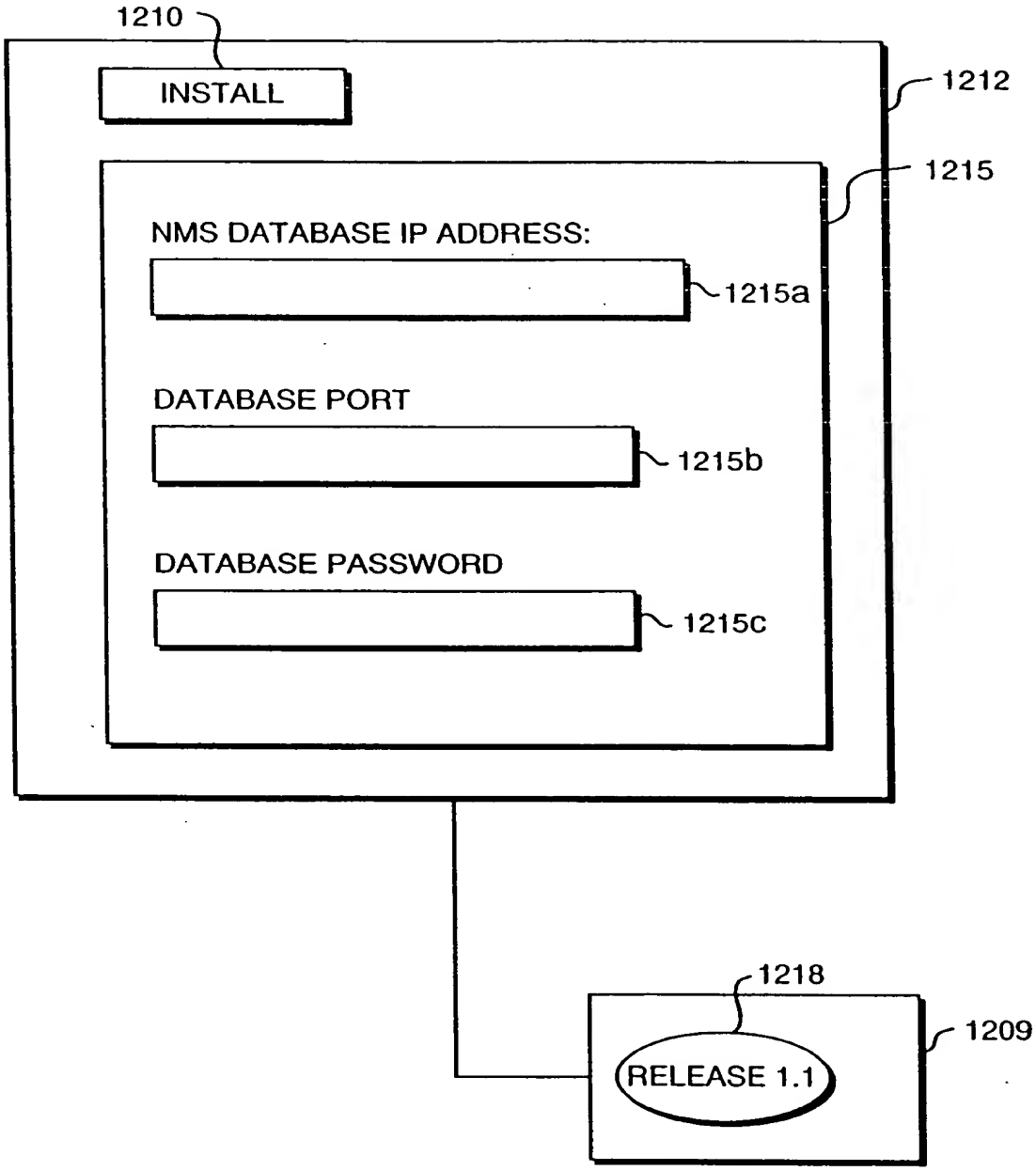


FIG. 20E

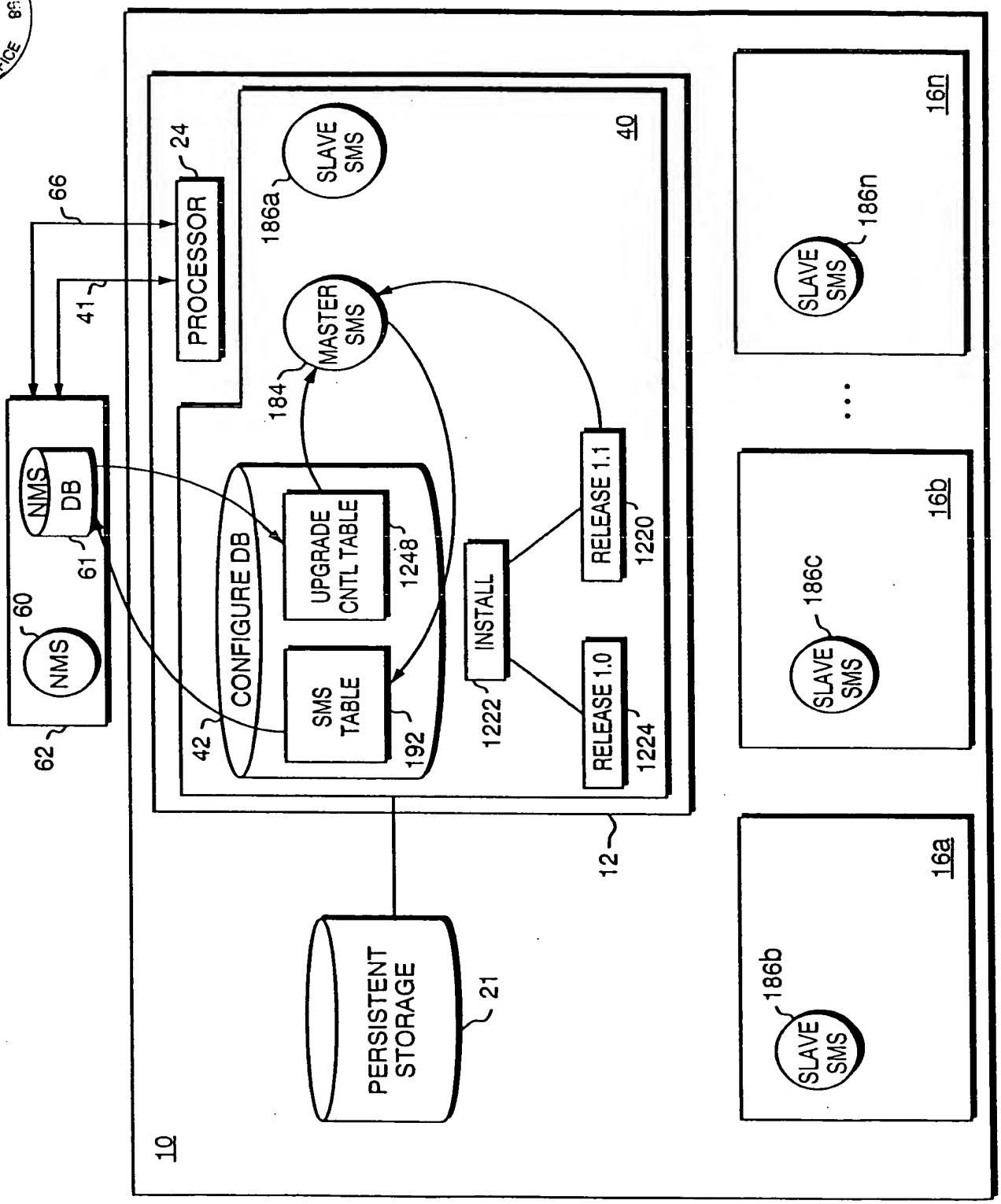


FIG. 21A

SMS TABLE 192

1226 IMAGE LID	1228 VERIFICATION STATUS	1230 UPGRADE MODES	...
1227 9623	PASSED	X2348	...
.	.	.	.
.	.	.	.
.	.	.	.

FIG. 21B

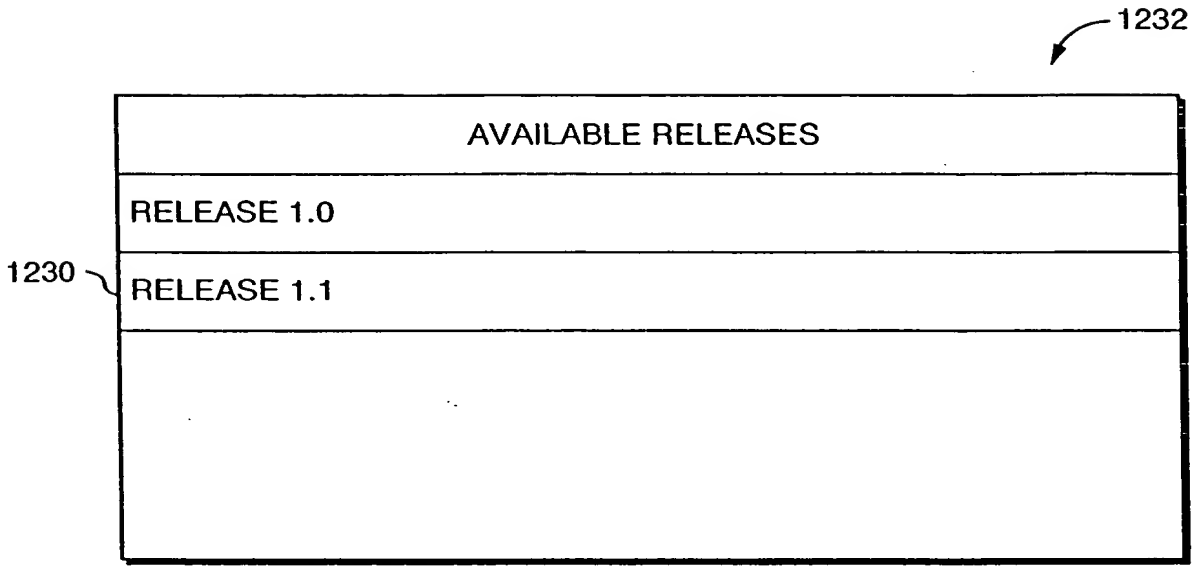


FIG. 21C

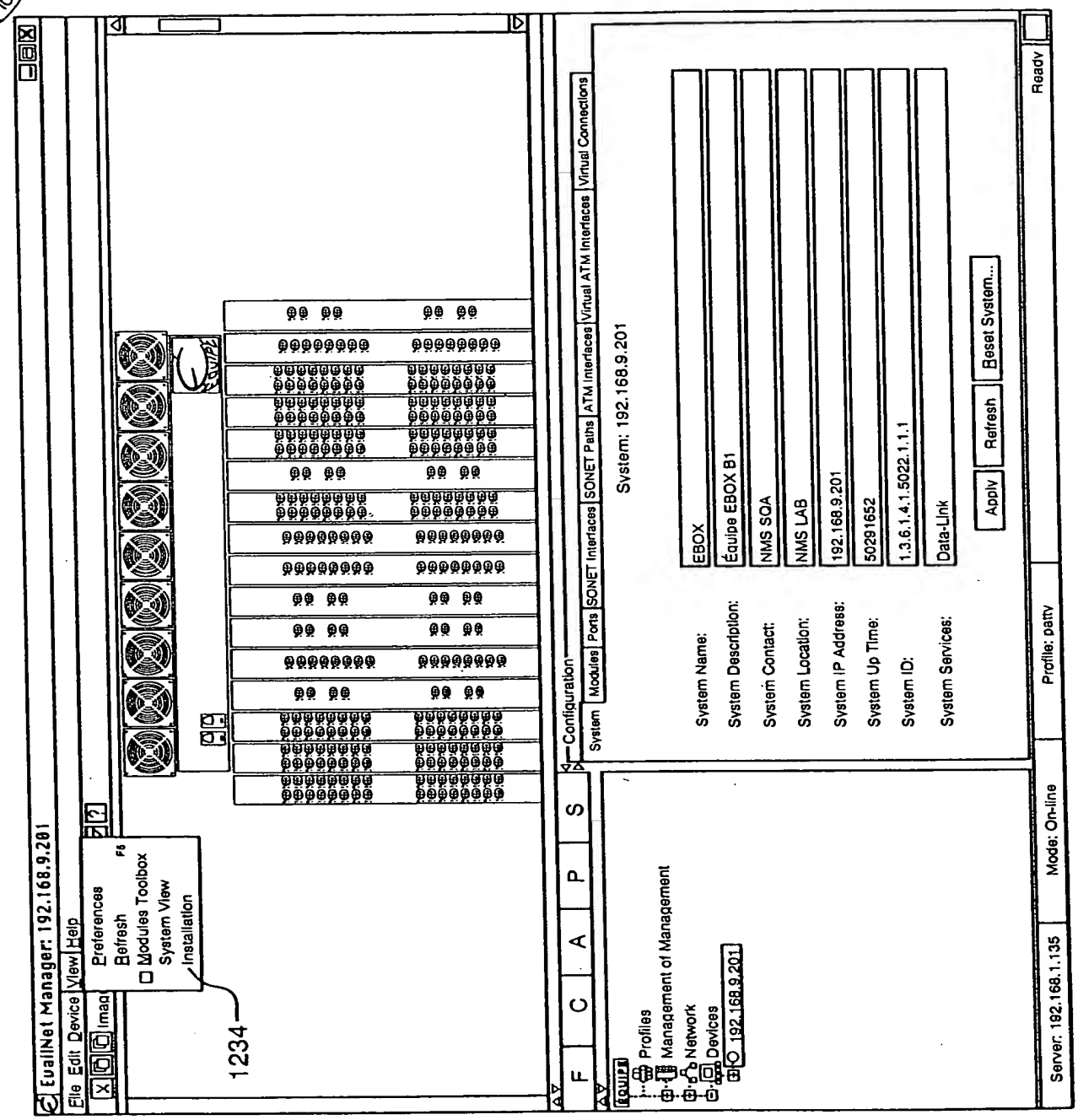


FIG. 21D

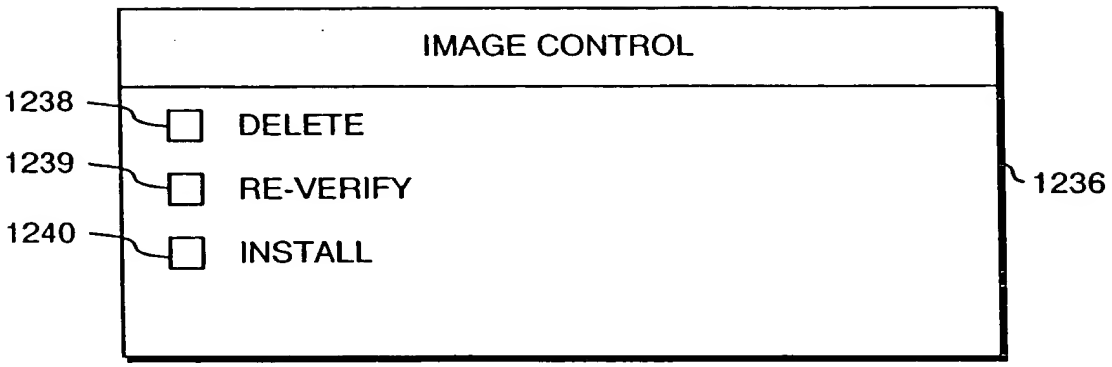


FIG. 21E

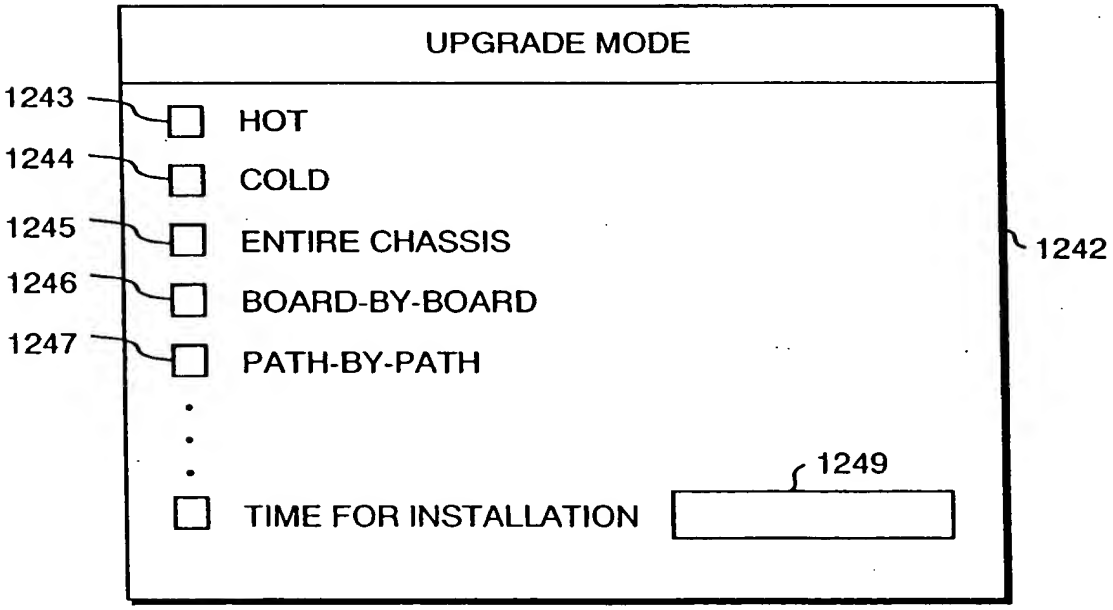


FIG. 21F

UPGRADE CONTROL TABLE 1248

	IMAGE LID (1252)	COMMAND (1253)	TIME FOR INSTALLATION (1255)	STATUS	...
1250					
1251	9623	X2344			...
	⋮	⋮	⋮	⋮	⋮

FIG. 21G

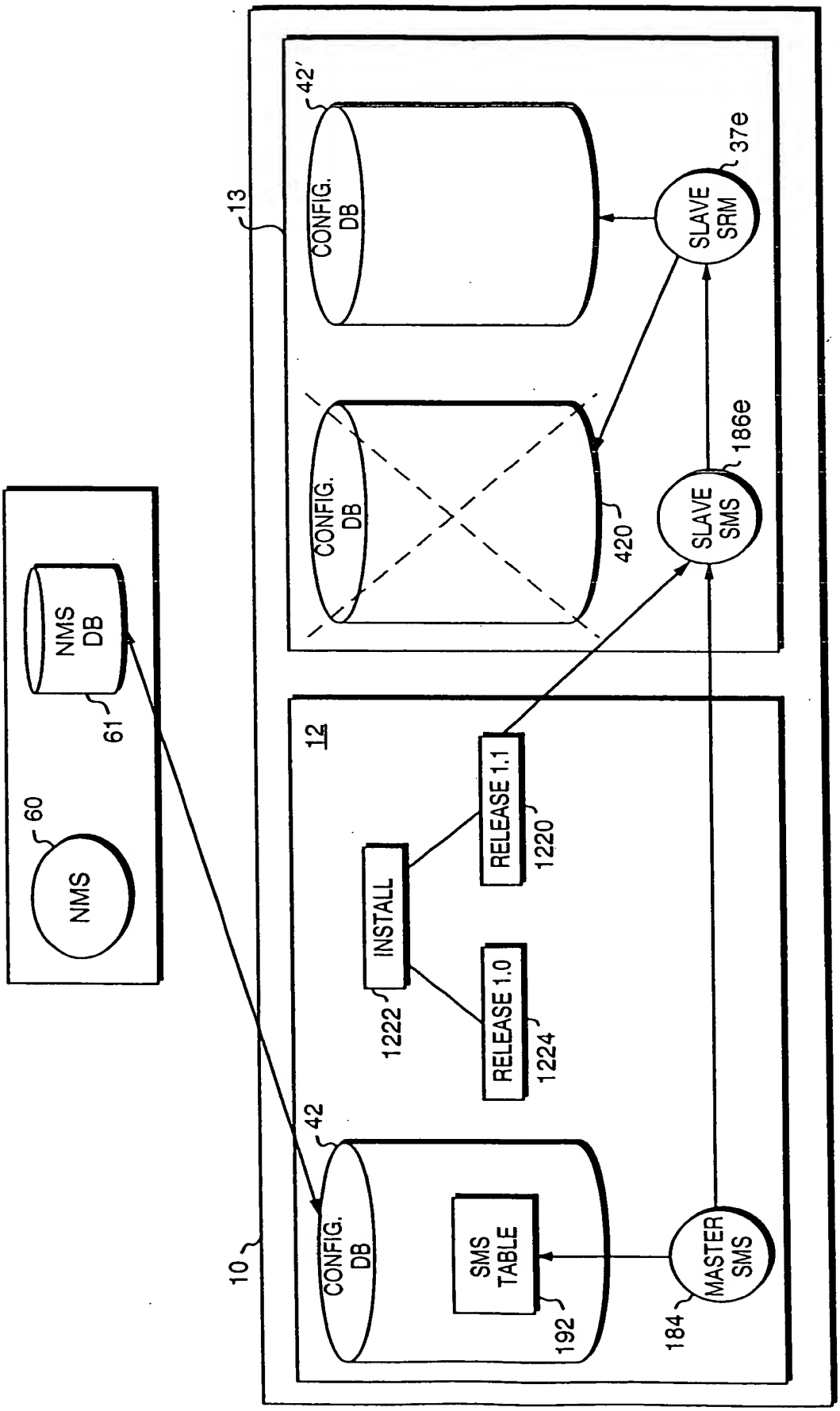


FIG. 22

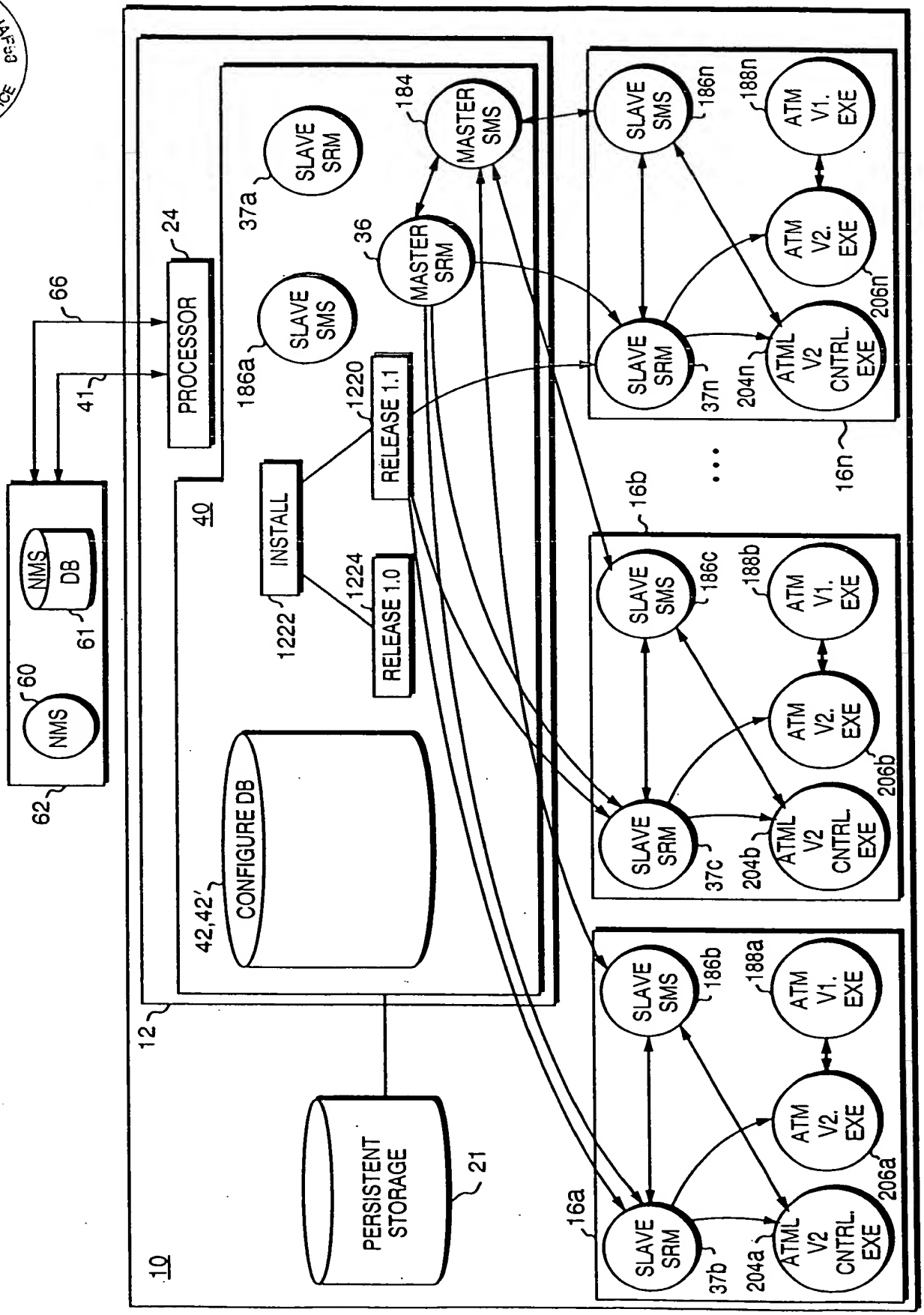


FIG. 23

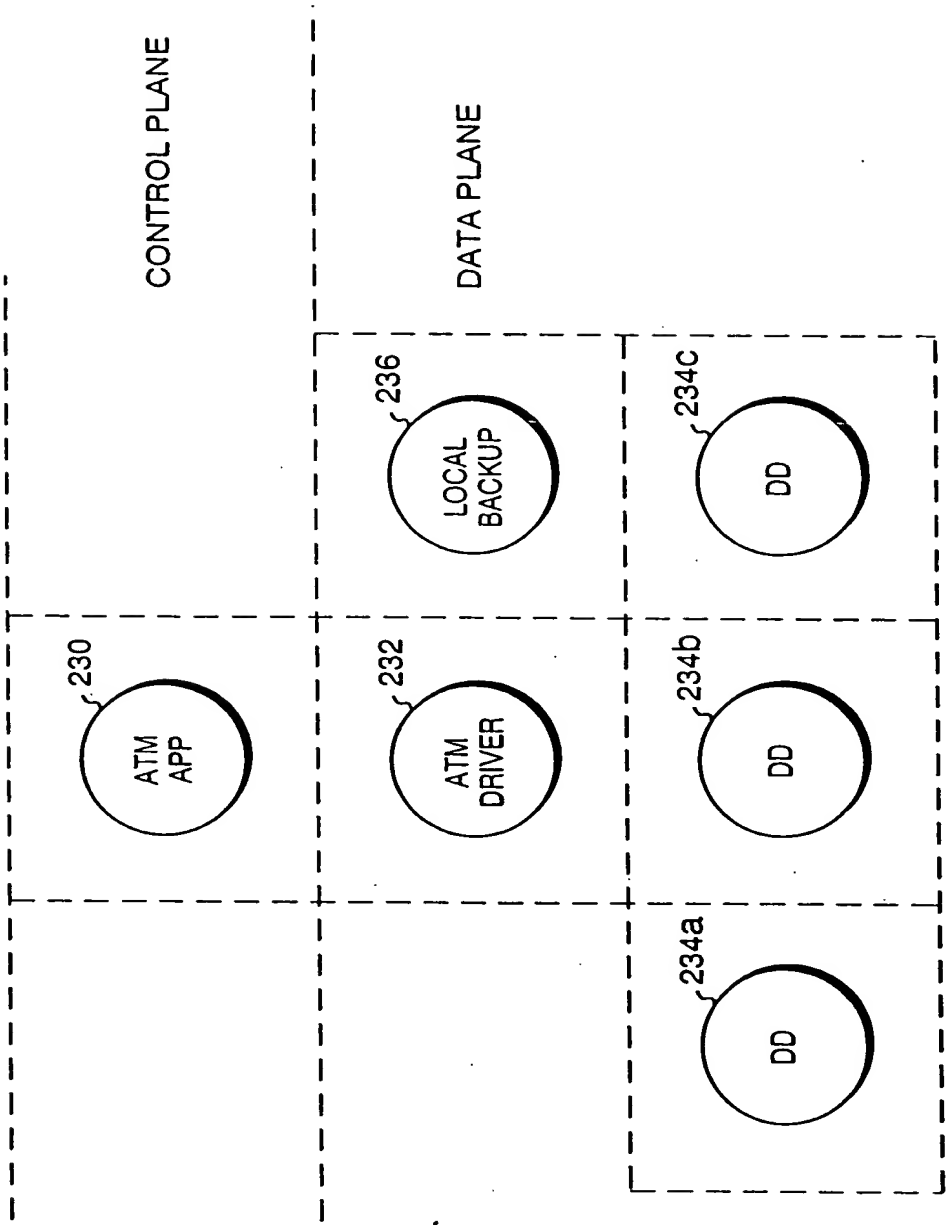


FIG. 24

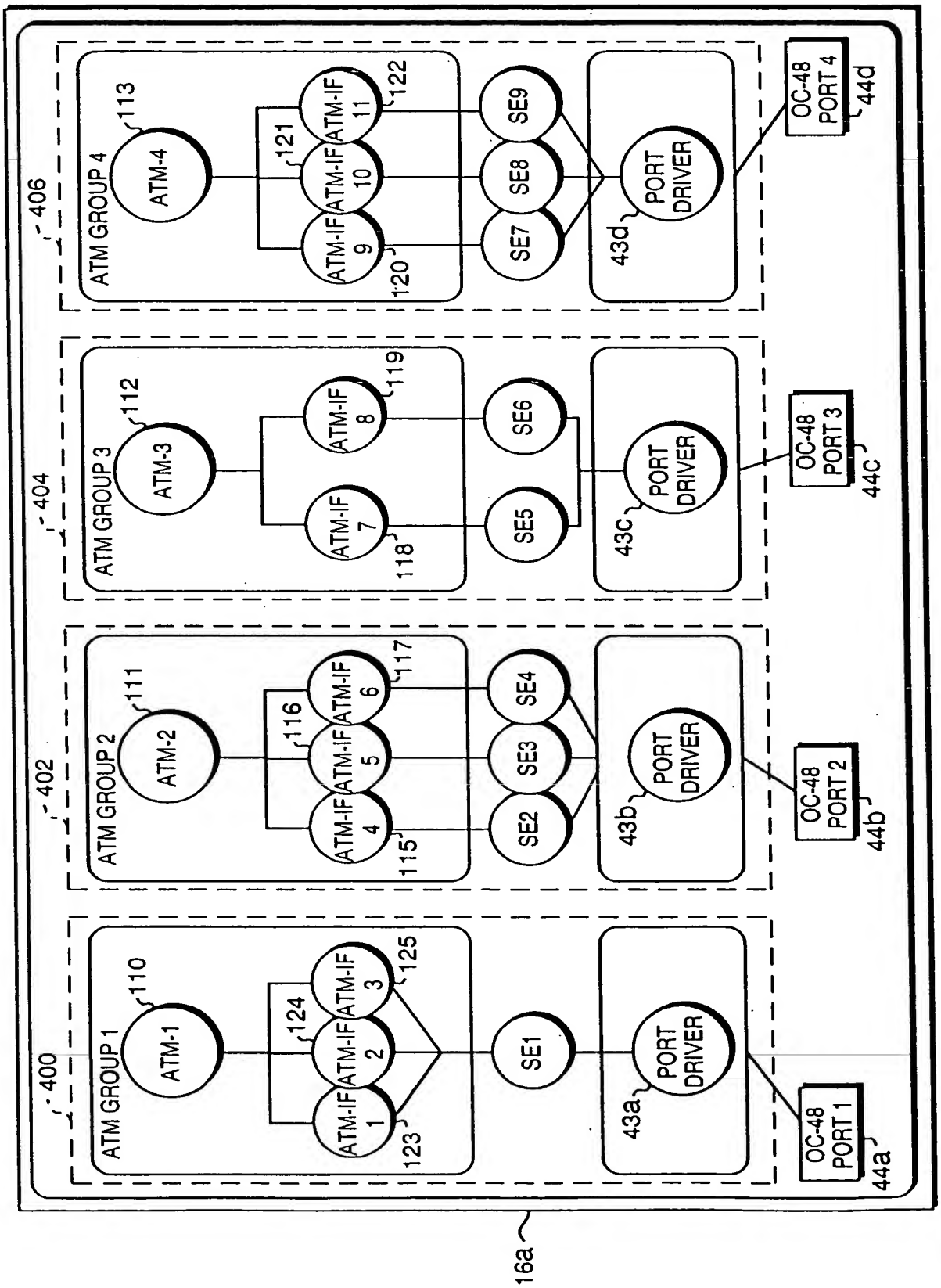
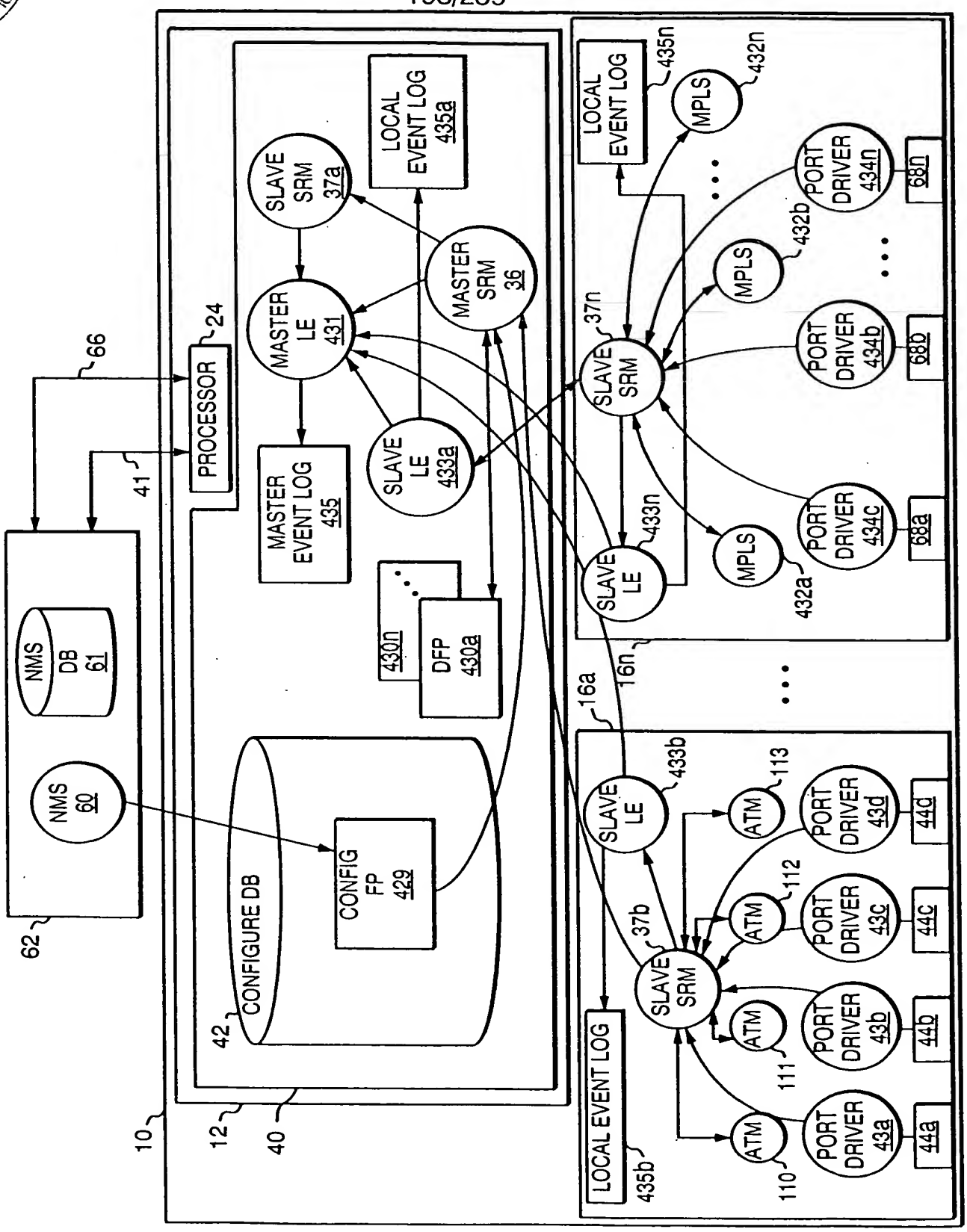


FIG. 25



IG. 26

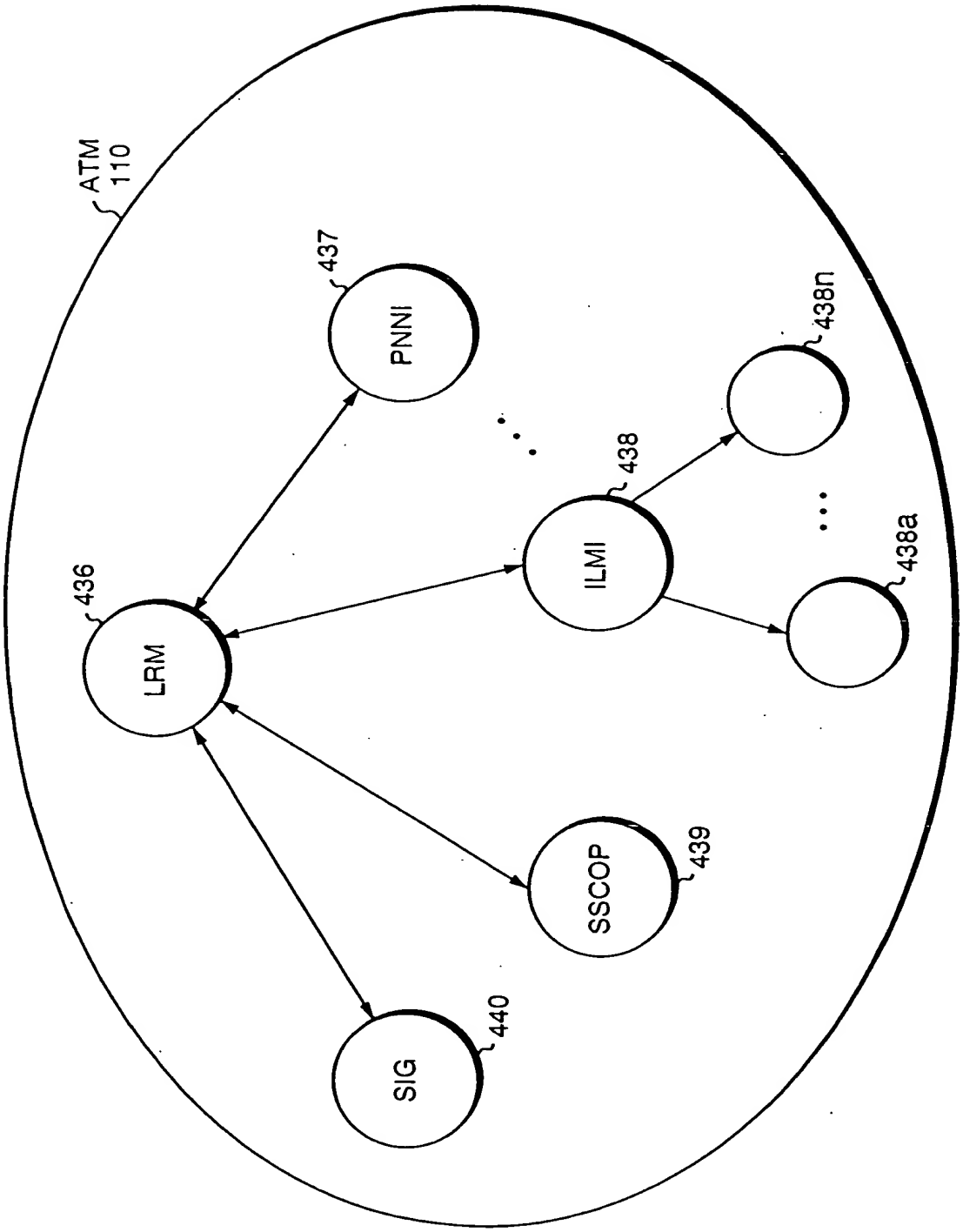


FIG. 27

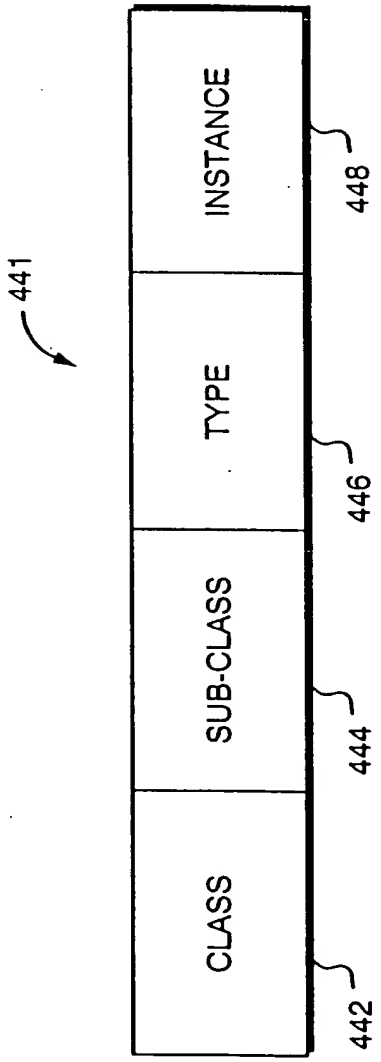


FIG. 28

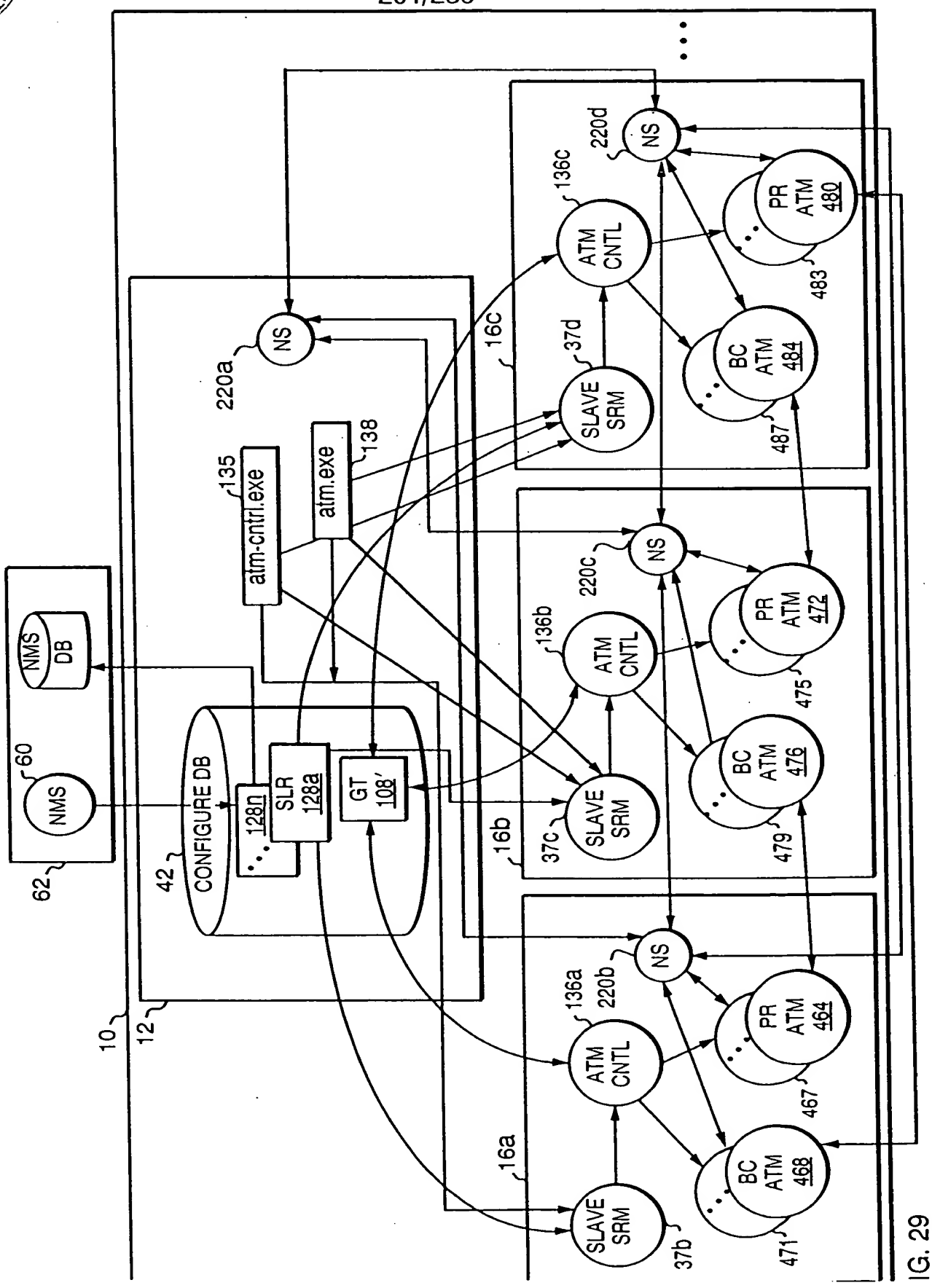


FIG. 29

GROUP TABLE 108'

	GROUP # (447)	PRIMARY CARD LID (449)	BACKUP CARD LID	...
450	1	30	31	
451	2	30	31	
452	3	30	31	
453	4	30	31	
454	5	31	32	
455	6	31	32	
456	7	31	32	
457	8	31	32	
458	9	32	30	
459	10	32	30	
460	11	32	30	
461	12	32	30	
	. . .	. . .	. . .	. . .

FIG. 30

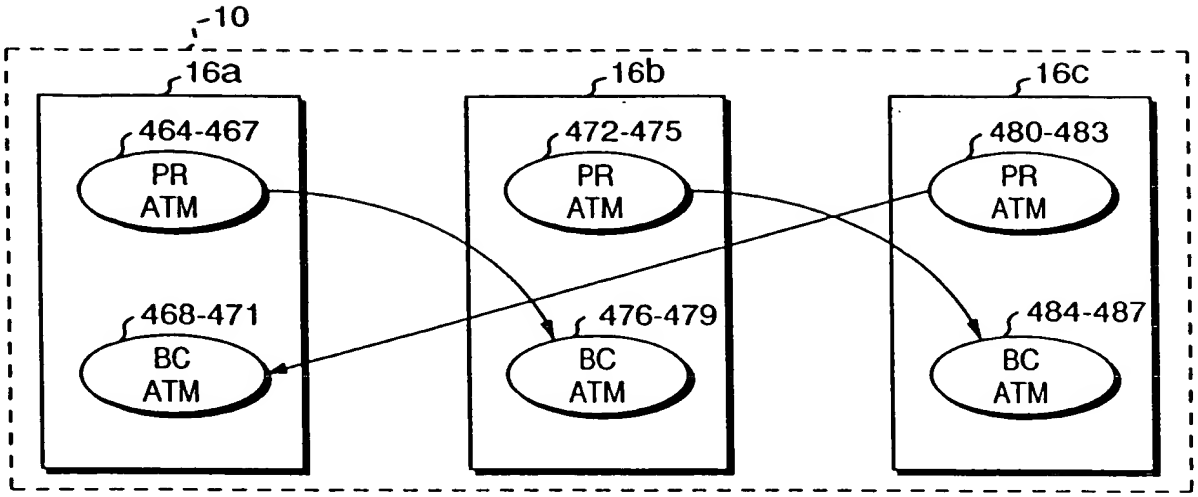


FIG. 31A

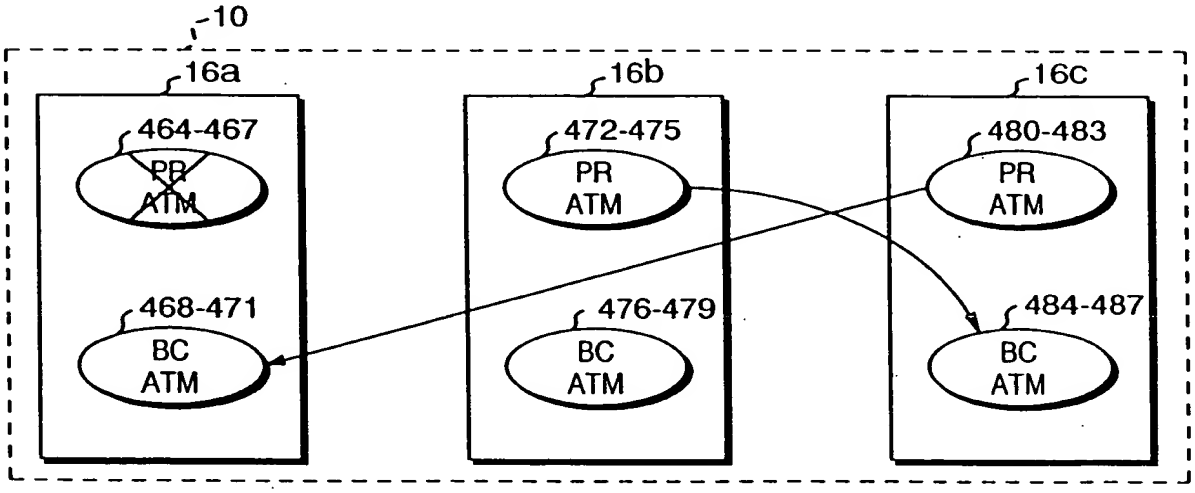
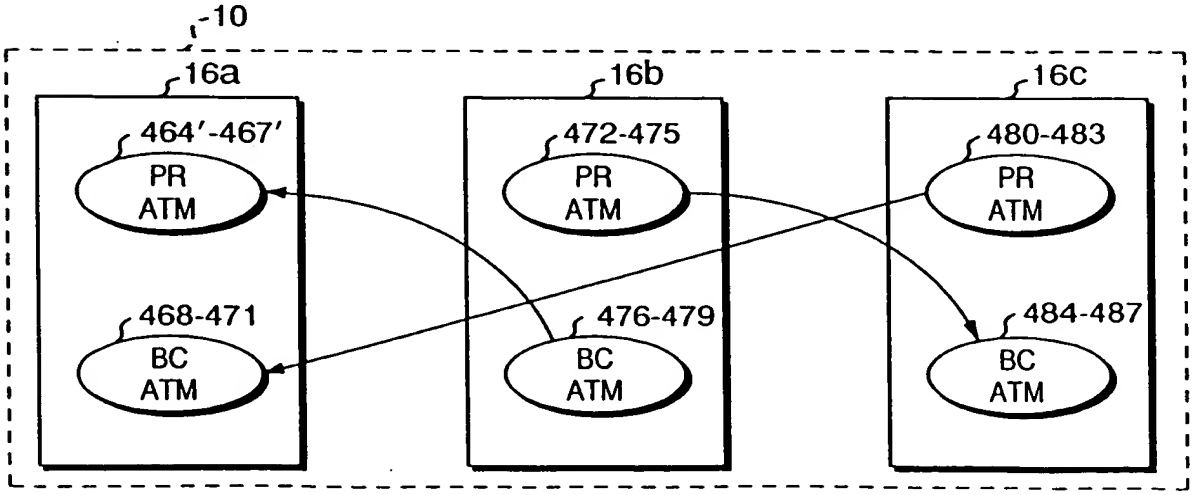


FIG. 31B



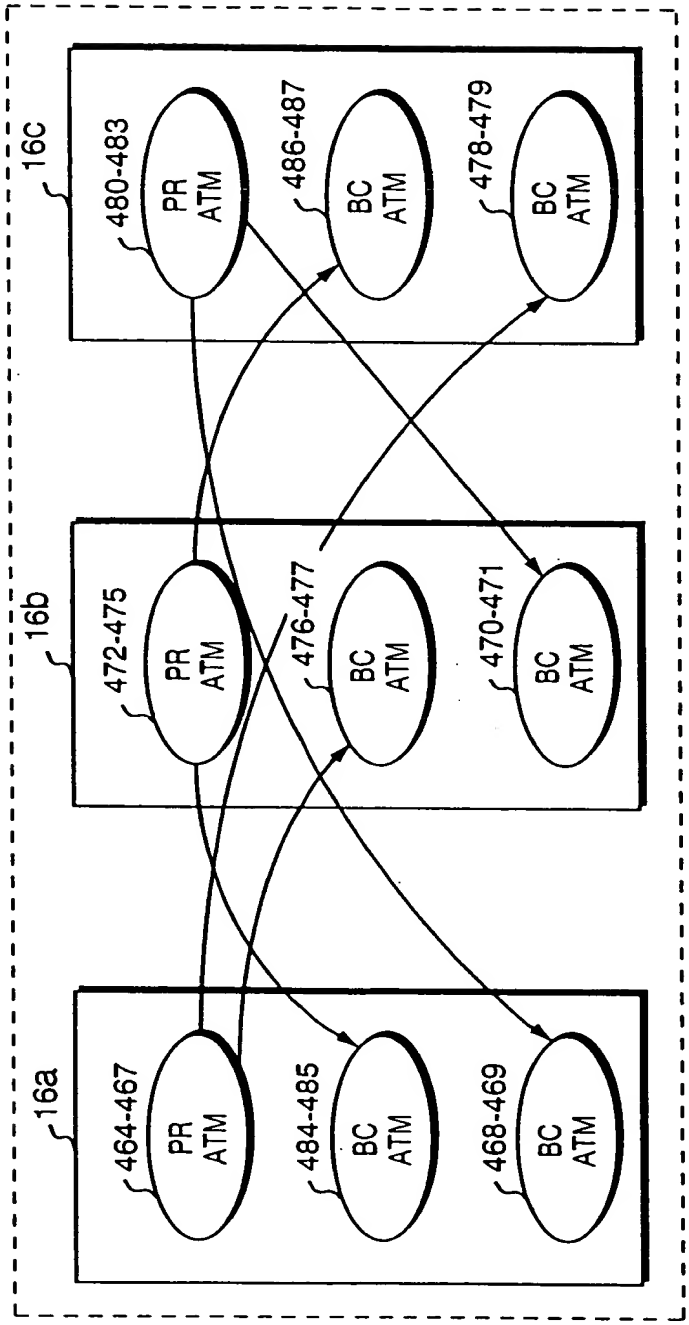


FIG. 32A

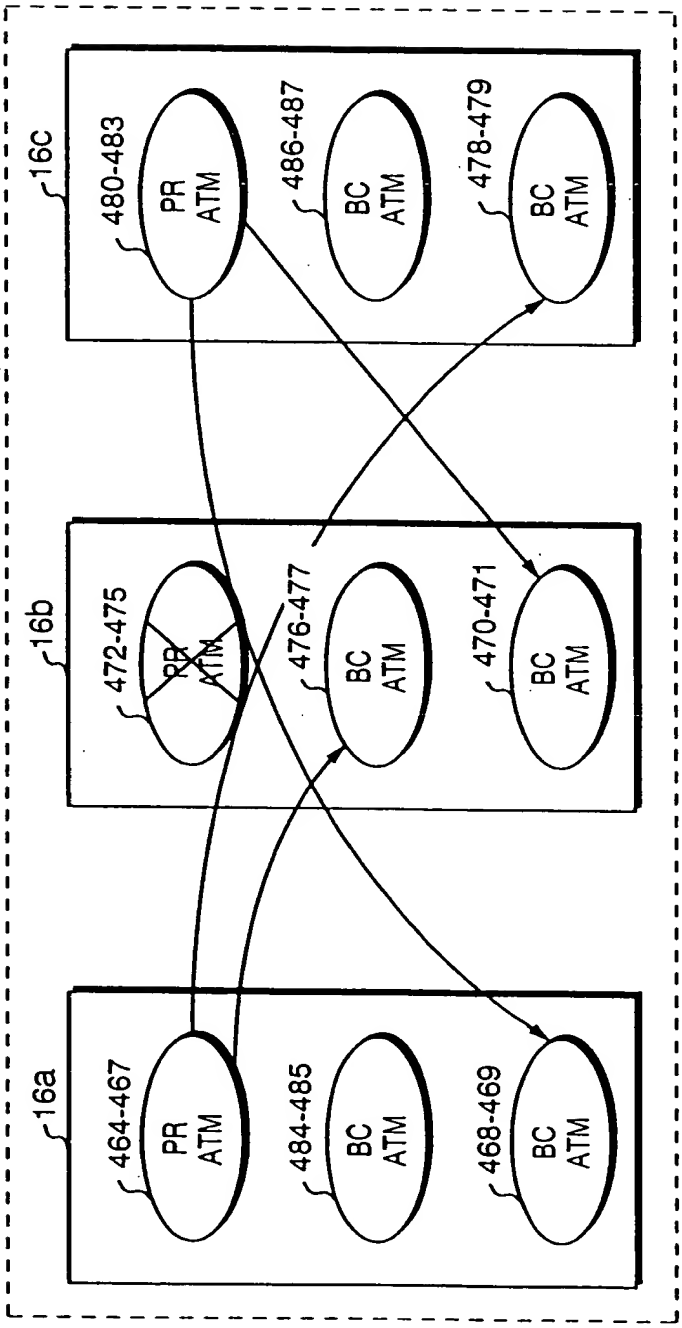


FIG. 32B

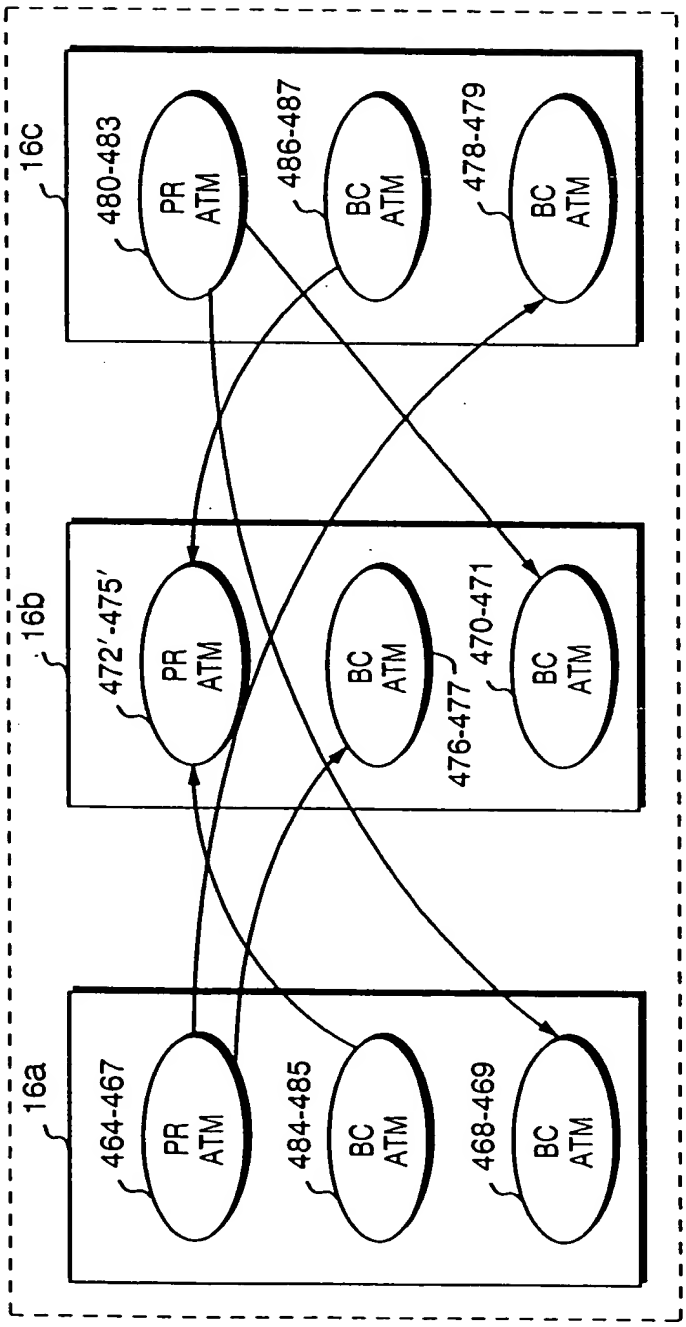


FIG. 32C

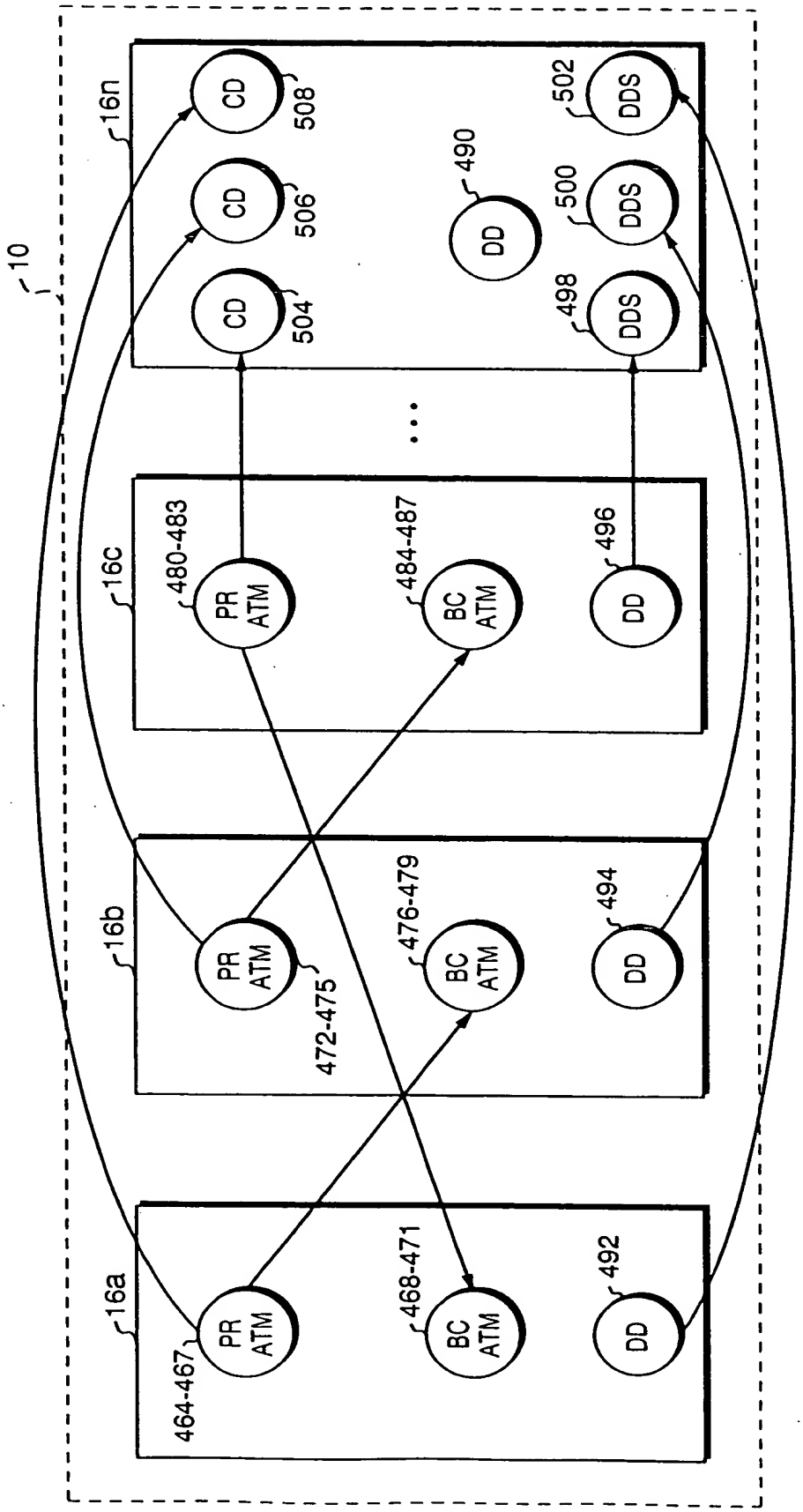


FIG. 33A

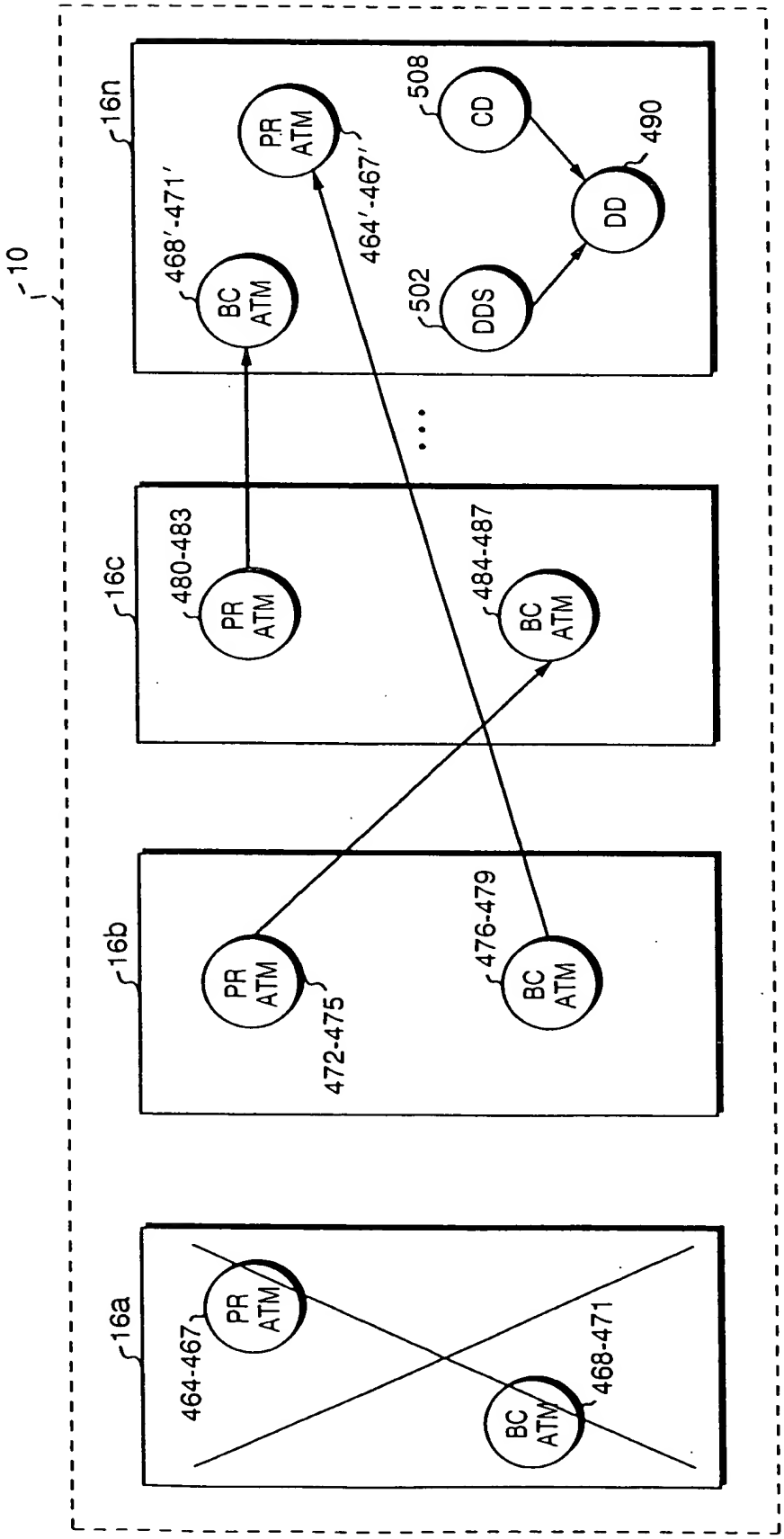


FIG. 33B

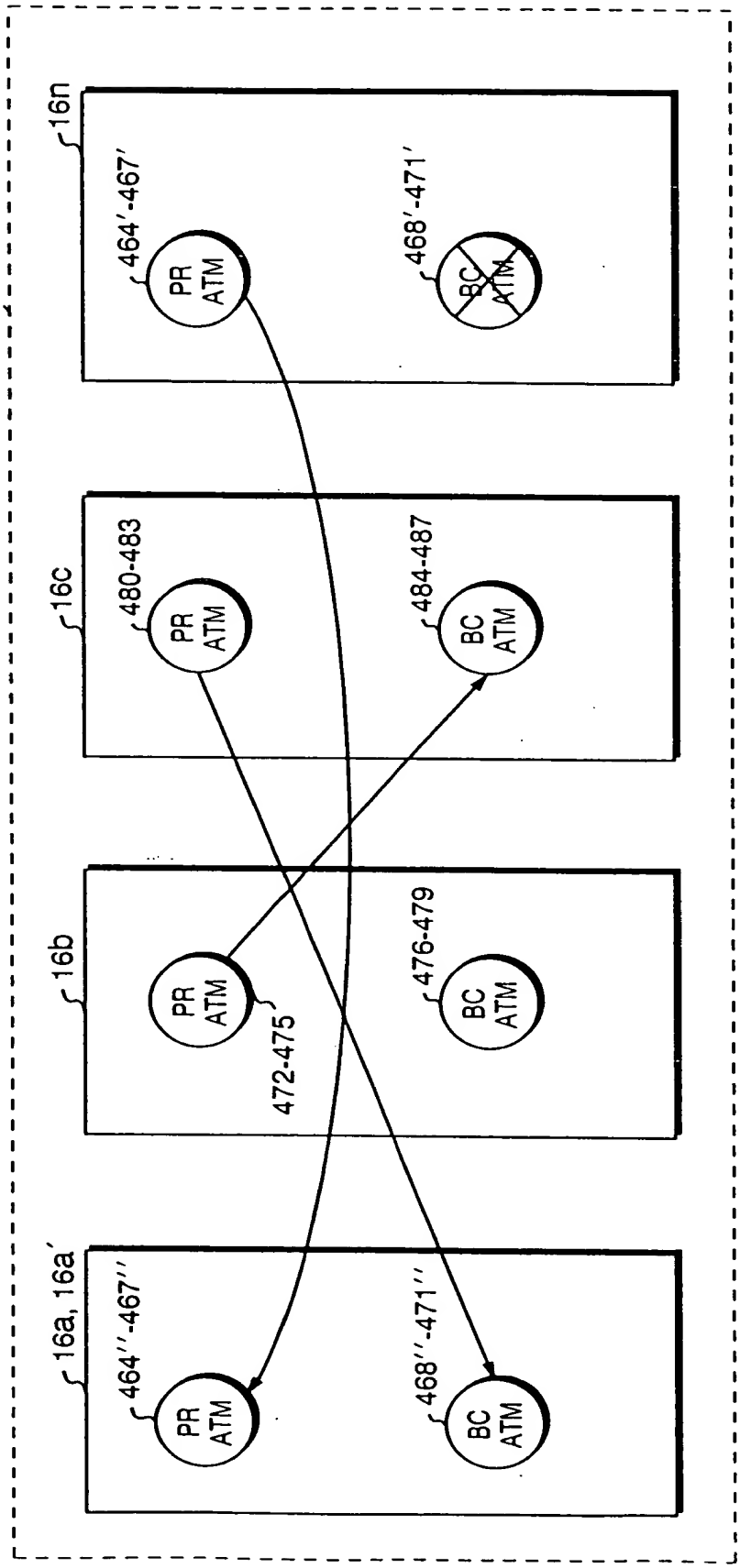


FIG. 33C

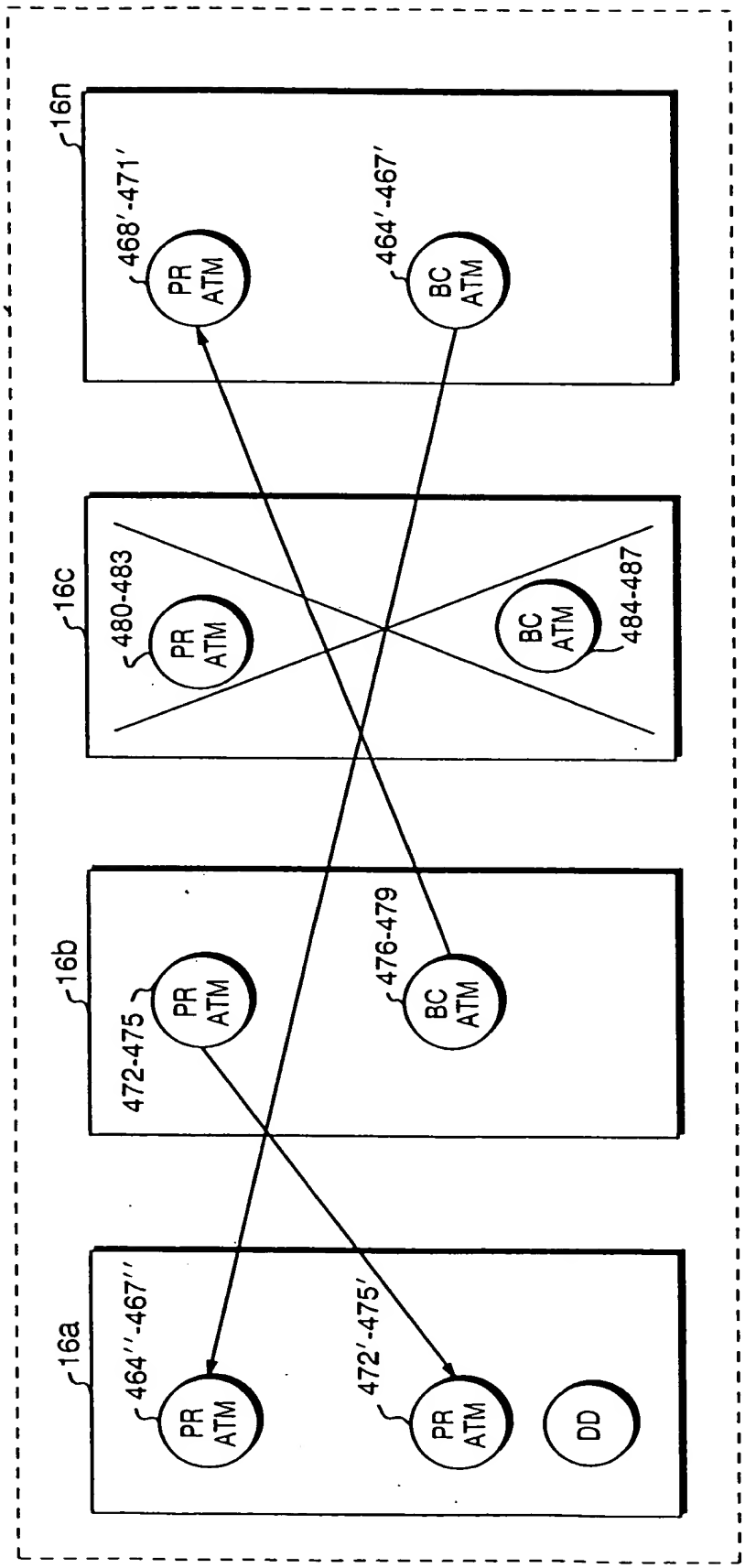


FIG. 33D

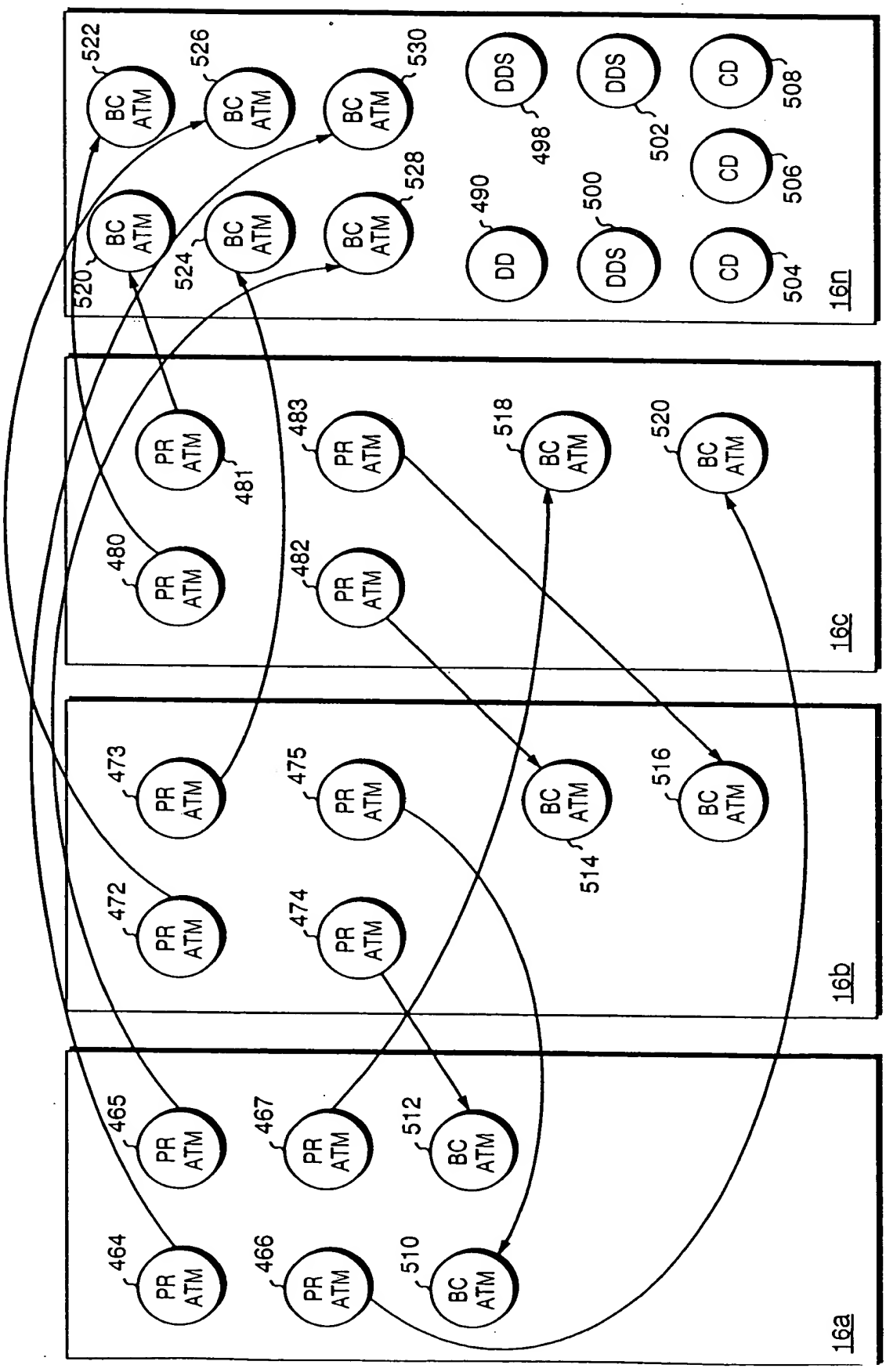


FIG. 34A

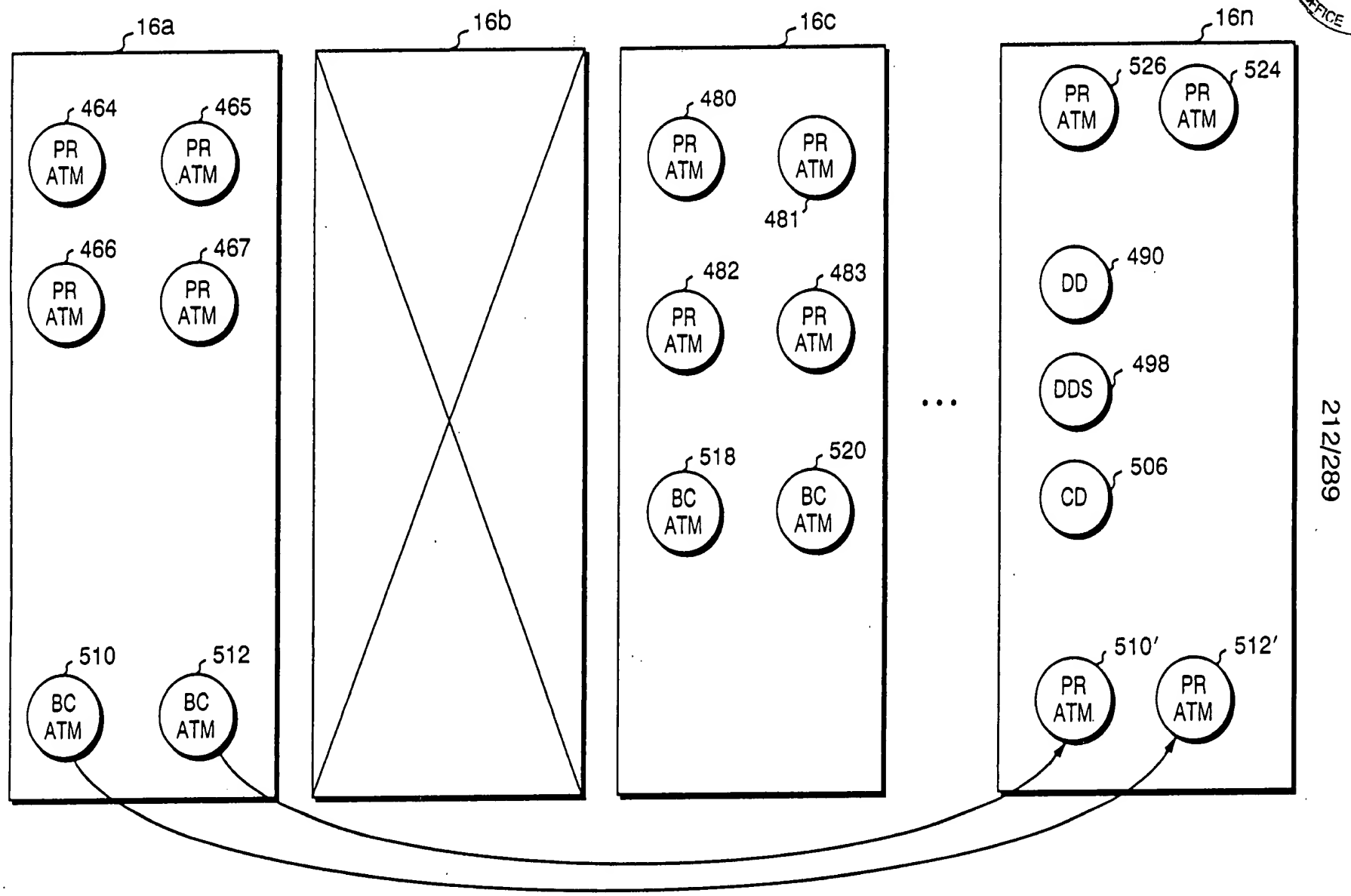


FIG. 34B

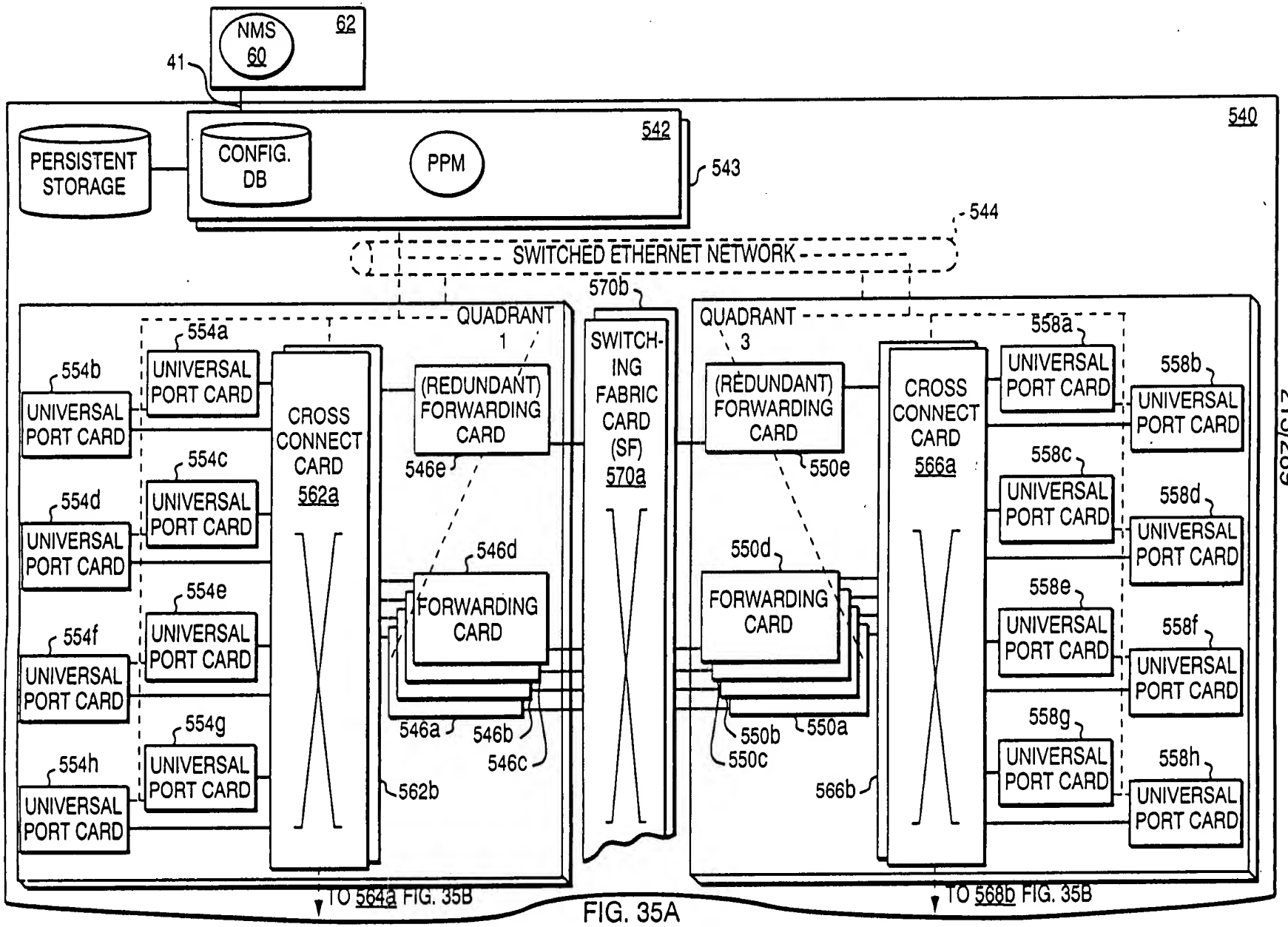


FIG. 35A

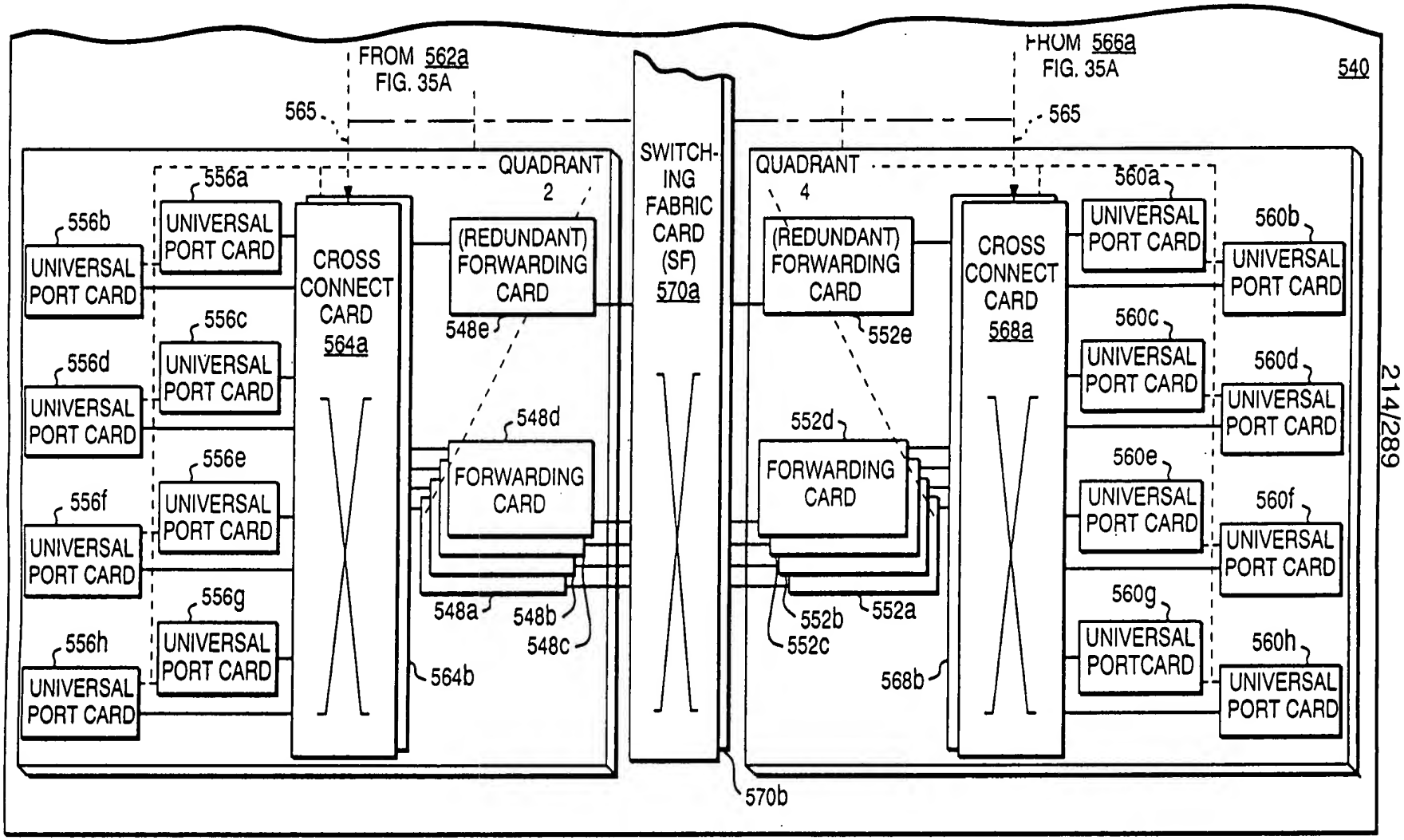


FIG. 35B

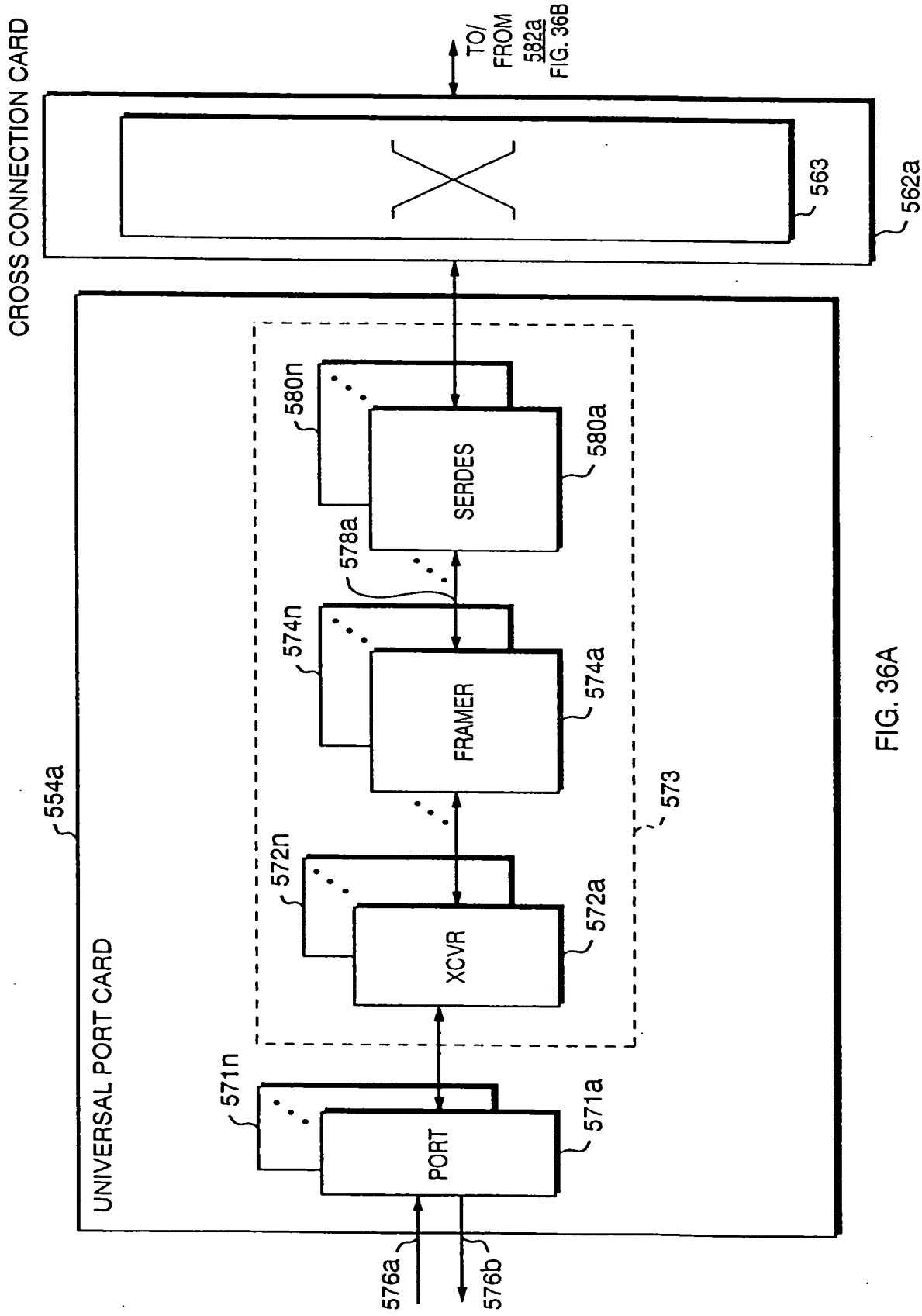


FIG. 36A

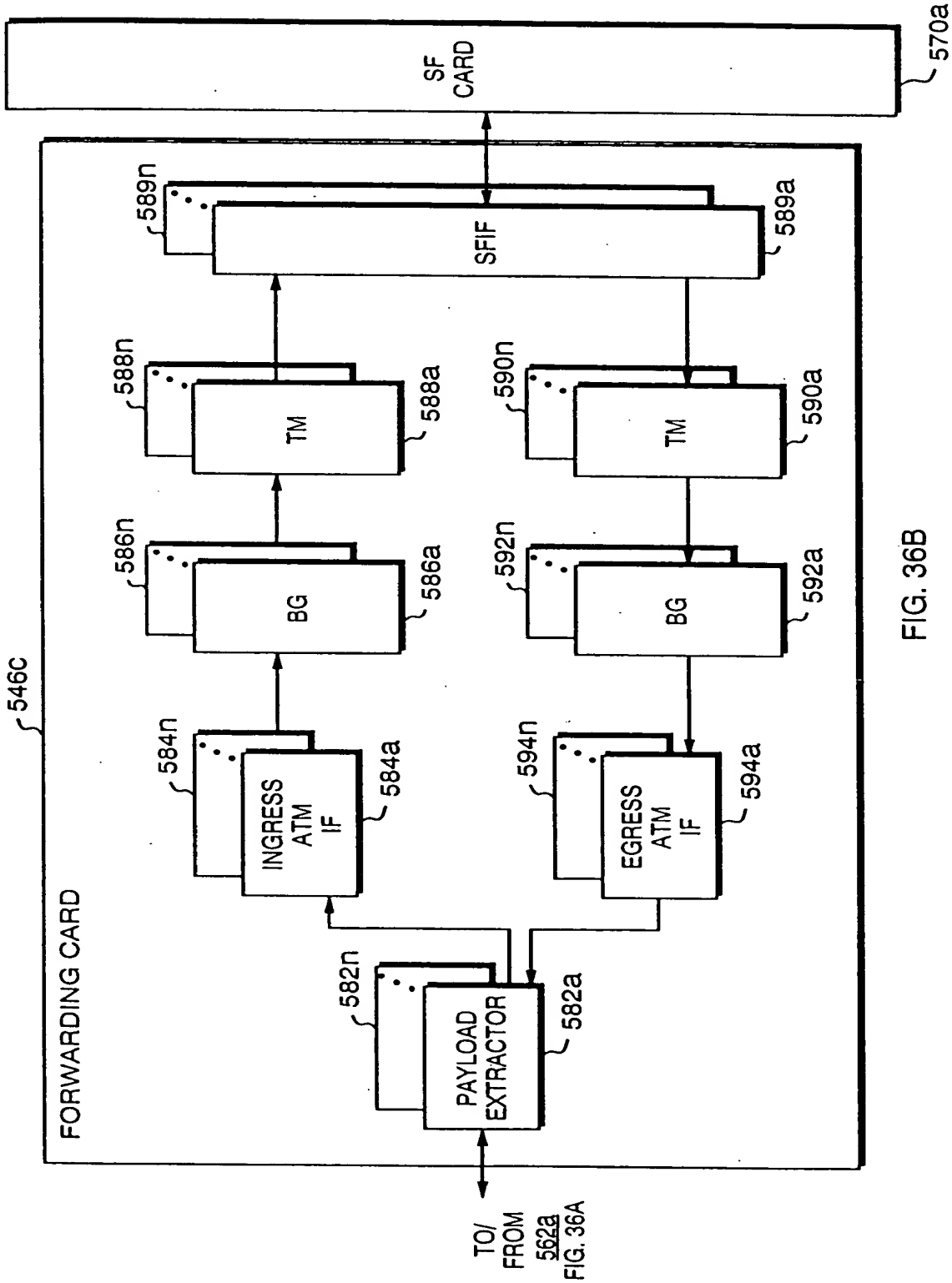


FIG. 36B

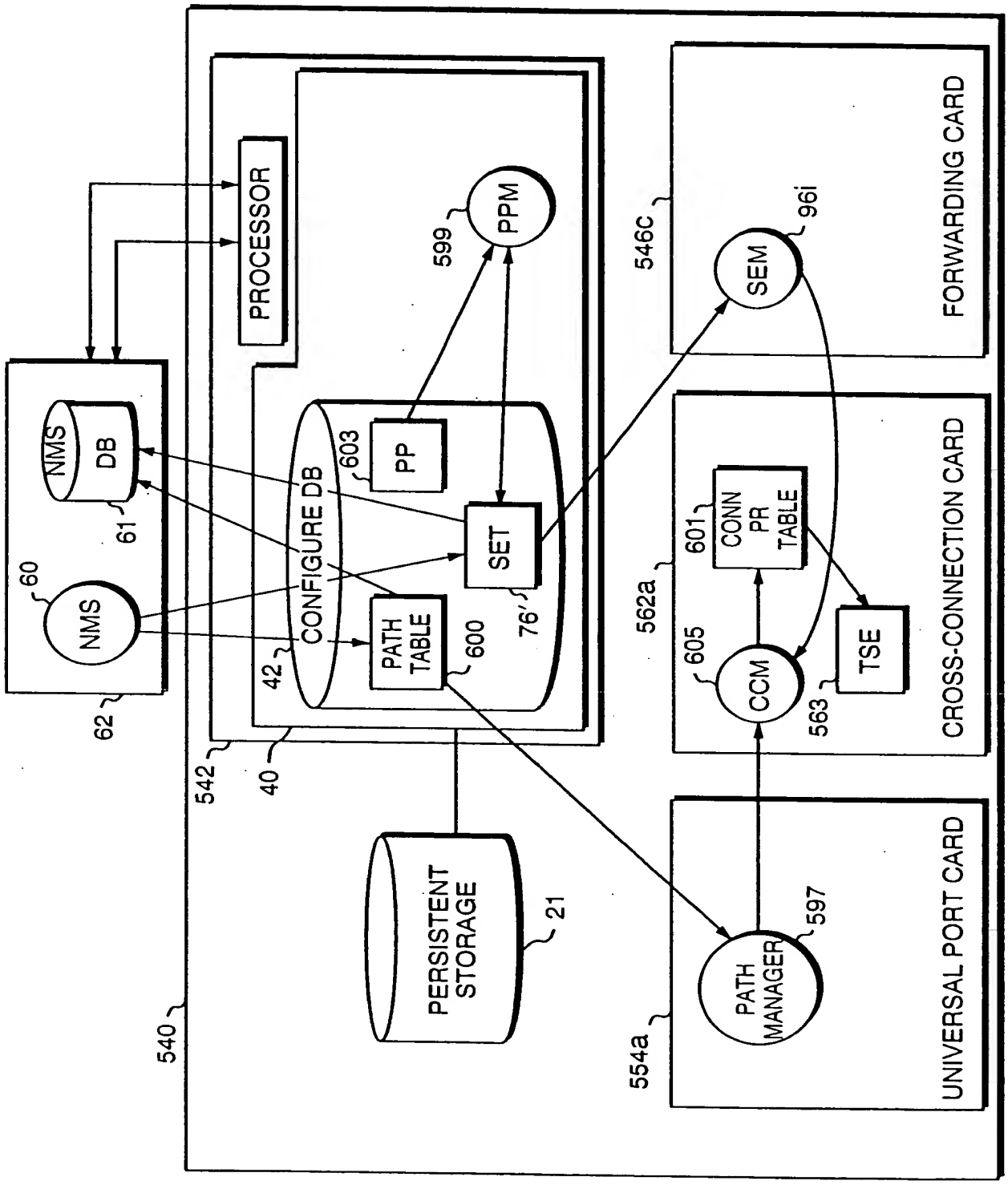


FIG. 37

PATH TABLE 600

602

PATH LID	UP PORT LID	TIME SLOT	# OF TIME SLOTS	...
1666	1231	4	3	
⋮	⋮	⋮	⋮	⋮

FIG. 38

SERVICE END POINT TABLE 76'

	SE # (606)	Q # (608)	FC LID (610)	FC SLICE	FC TIME SLOT	PATH PID	...
604	878	1				1666	
	•	•	•	•	•	•	•
	•	•	•	•	•	•	•
	•	•	•	•	•	•	•

FIG. 39

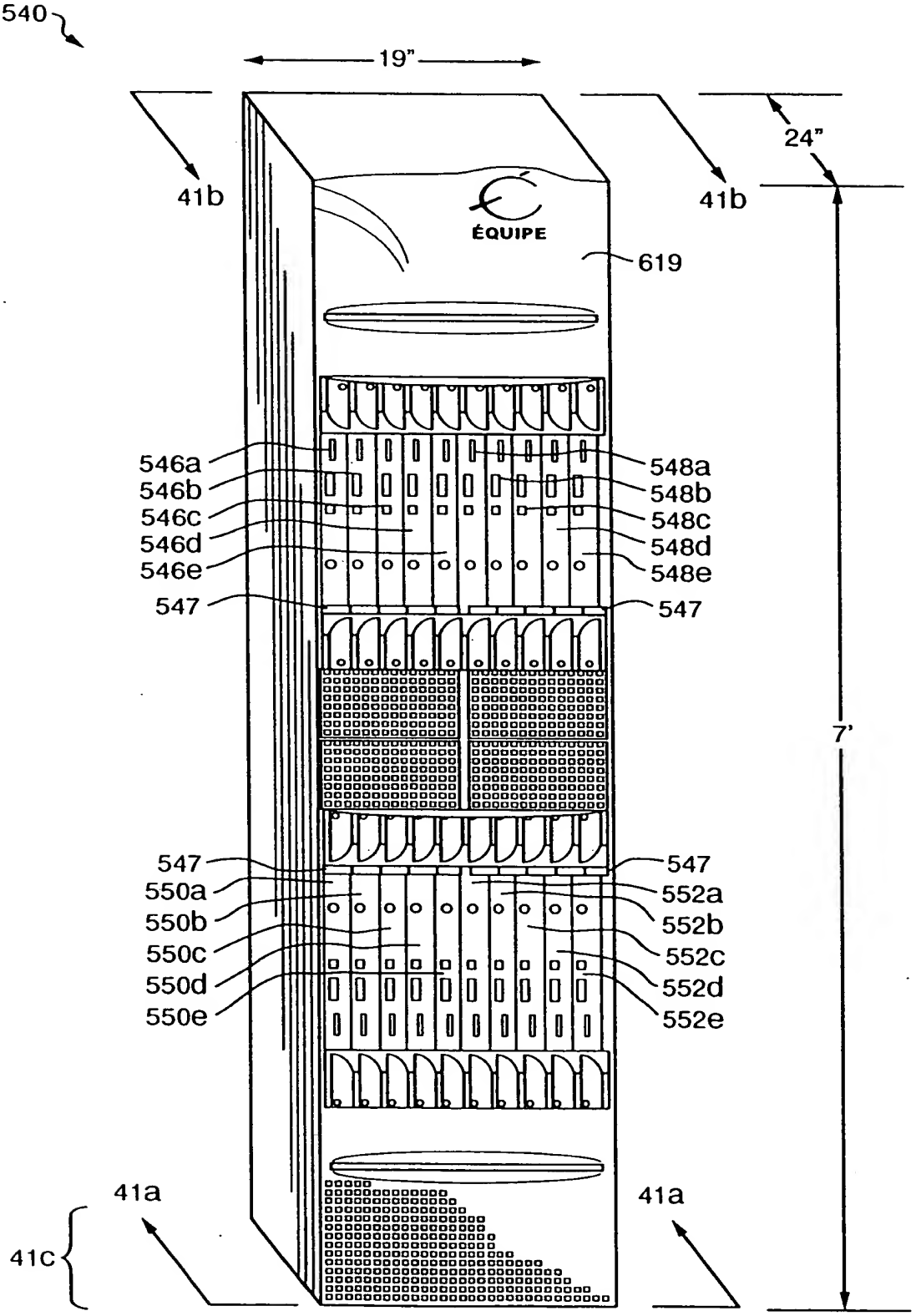


FIG. 40

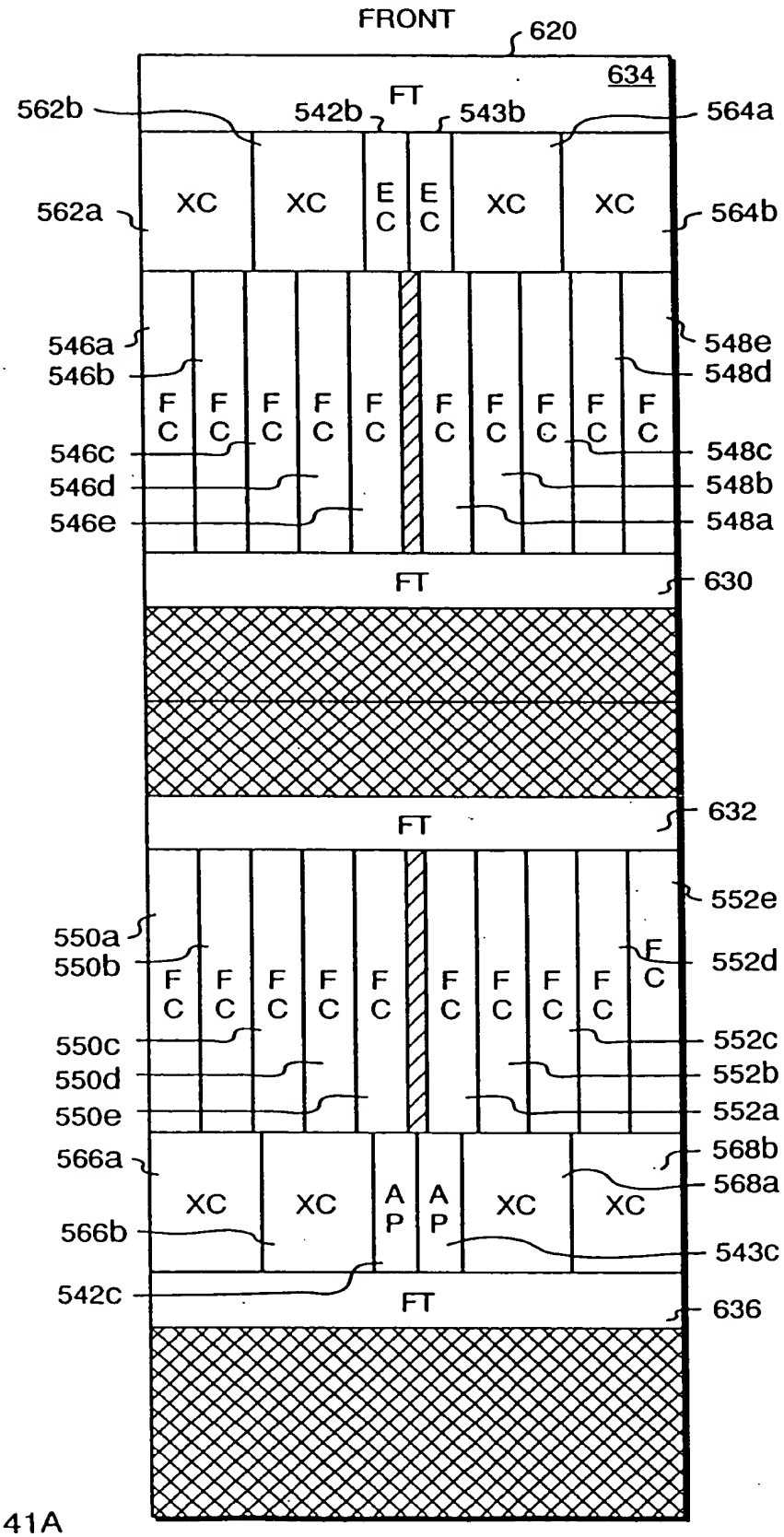


FIG. 41A

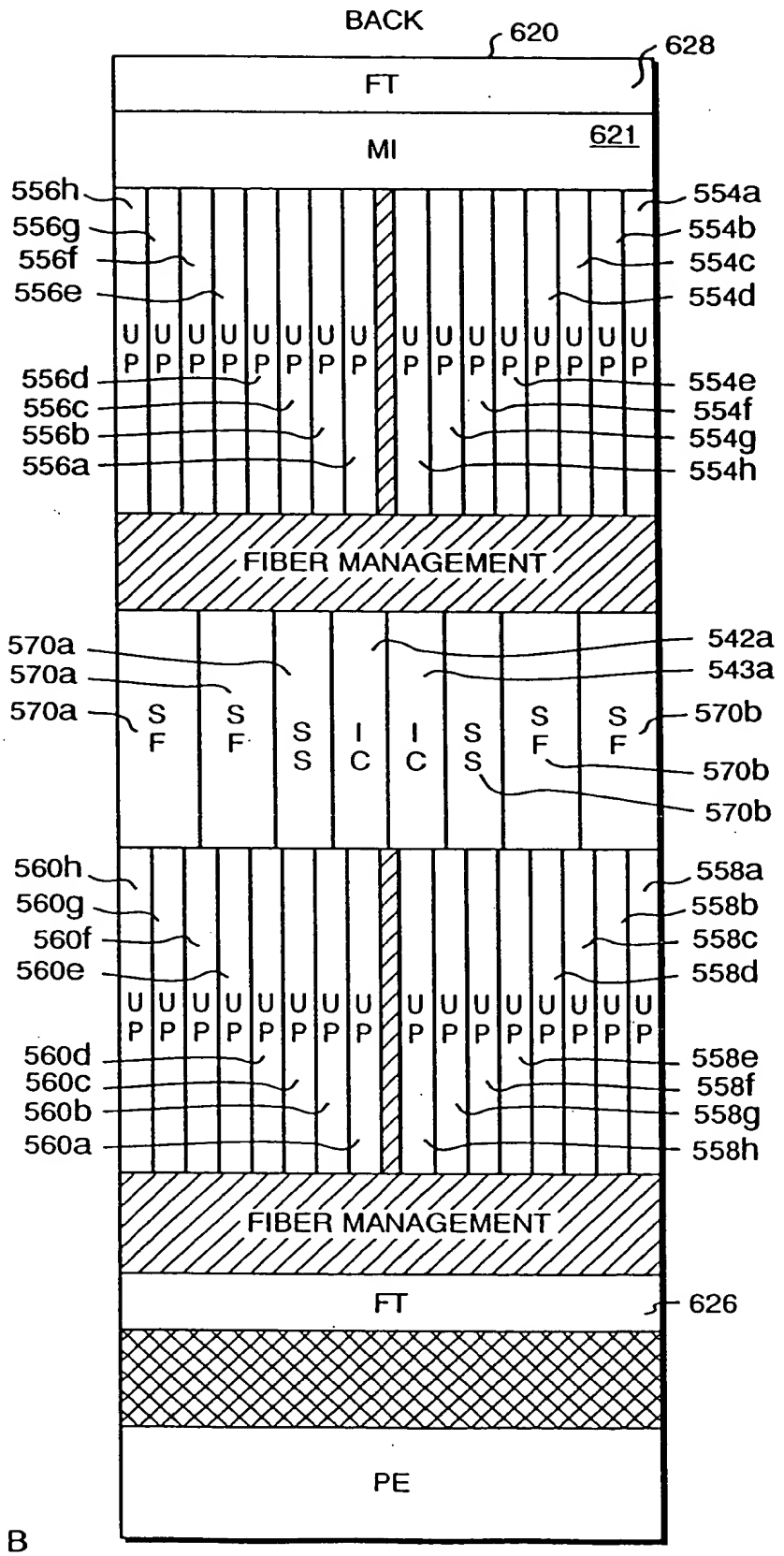


FIG. 41B

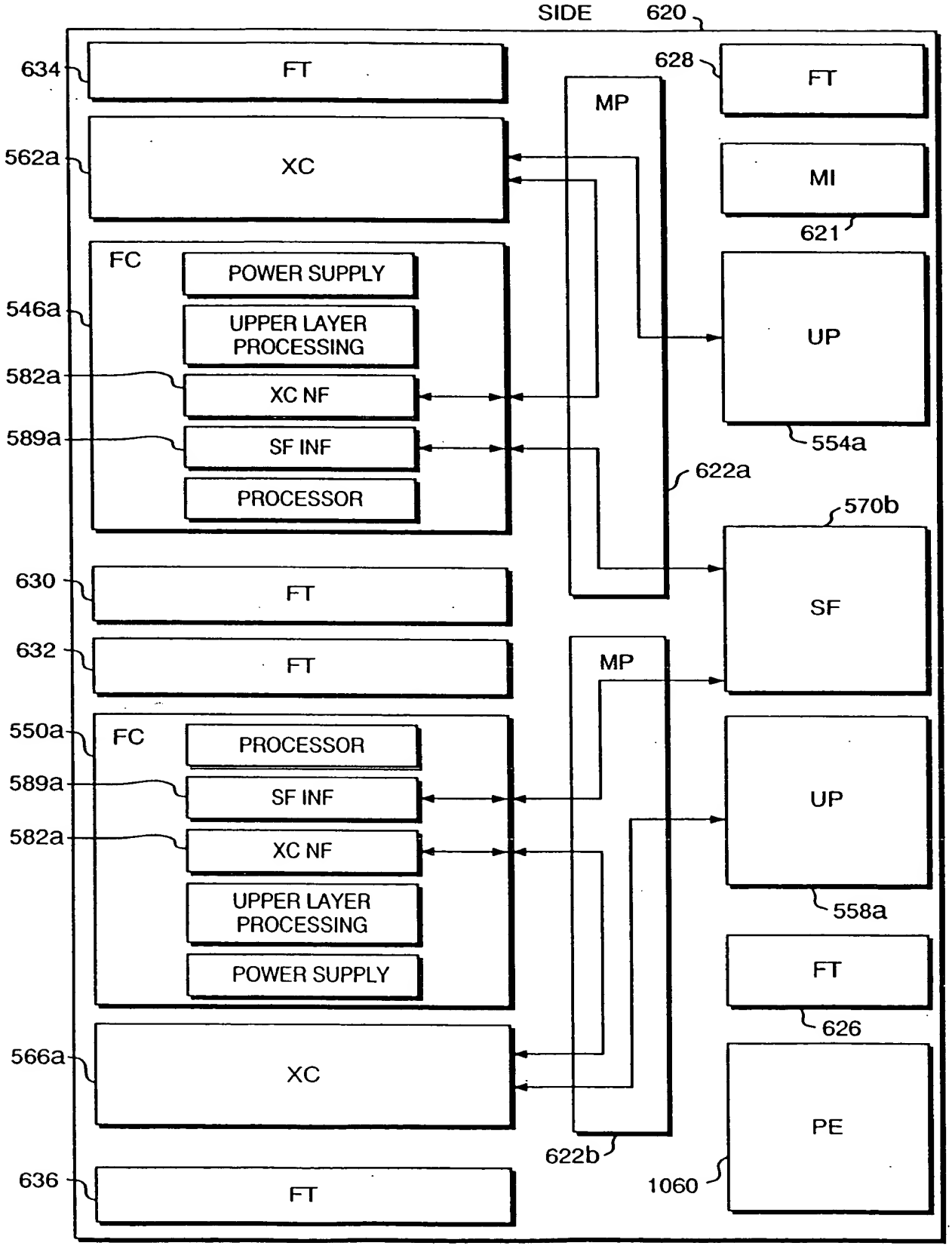


FIG. 41C

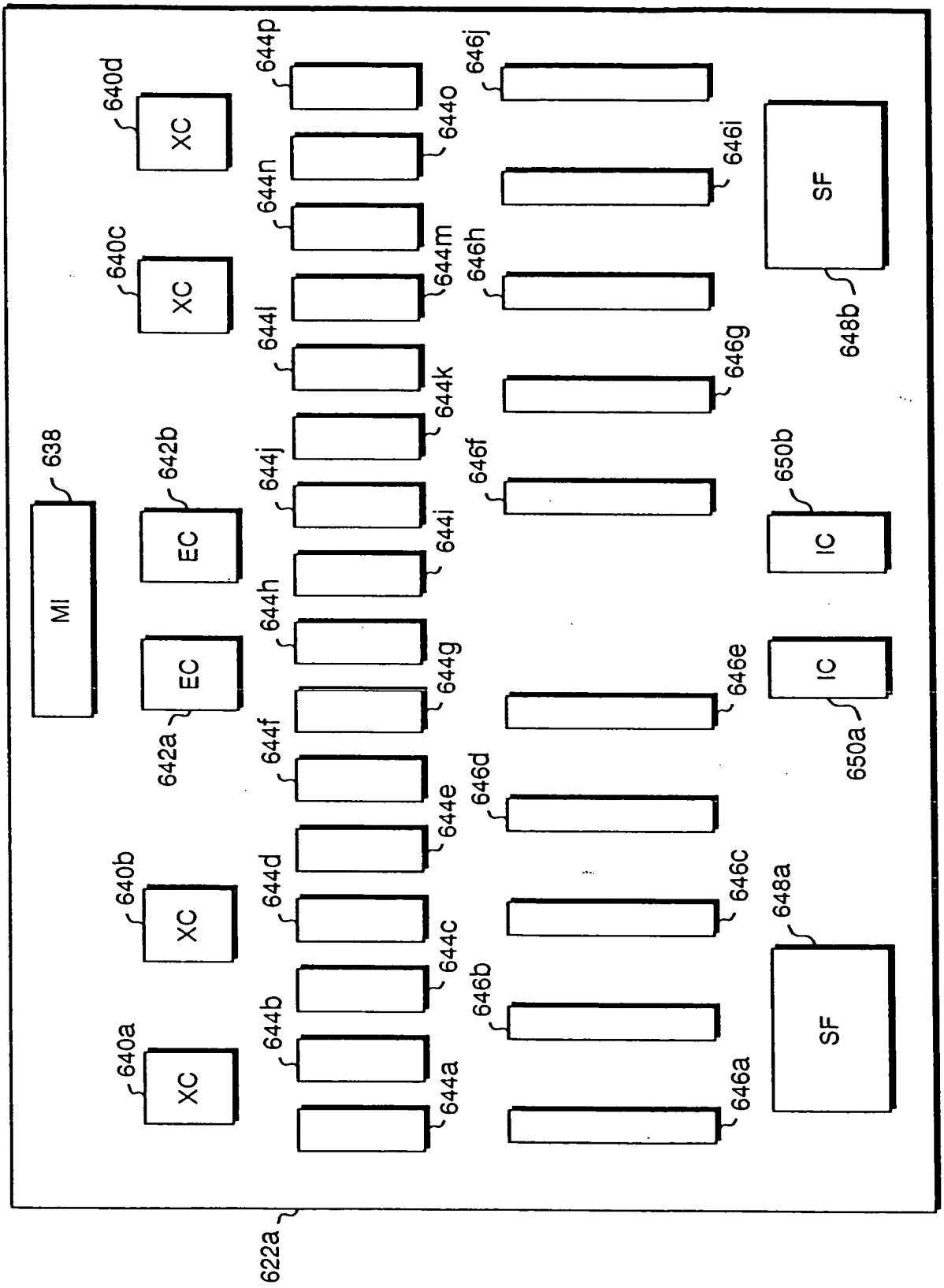


FIG. 42A

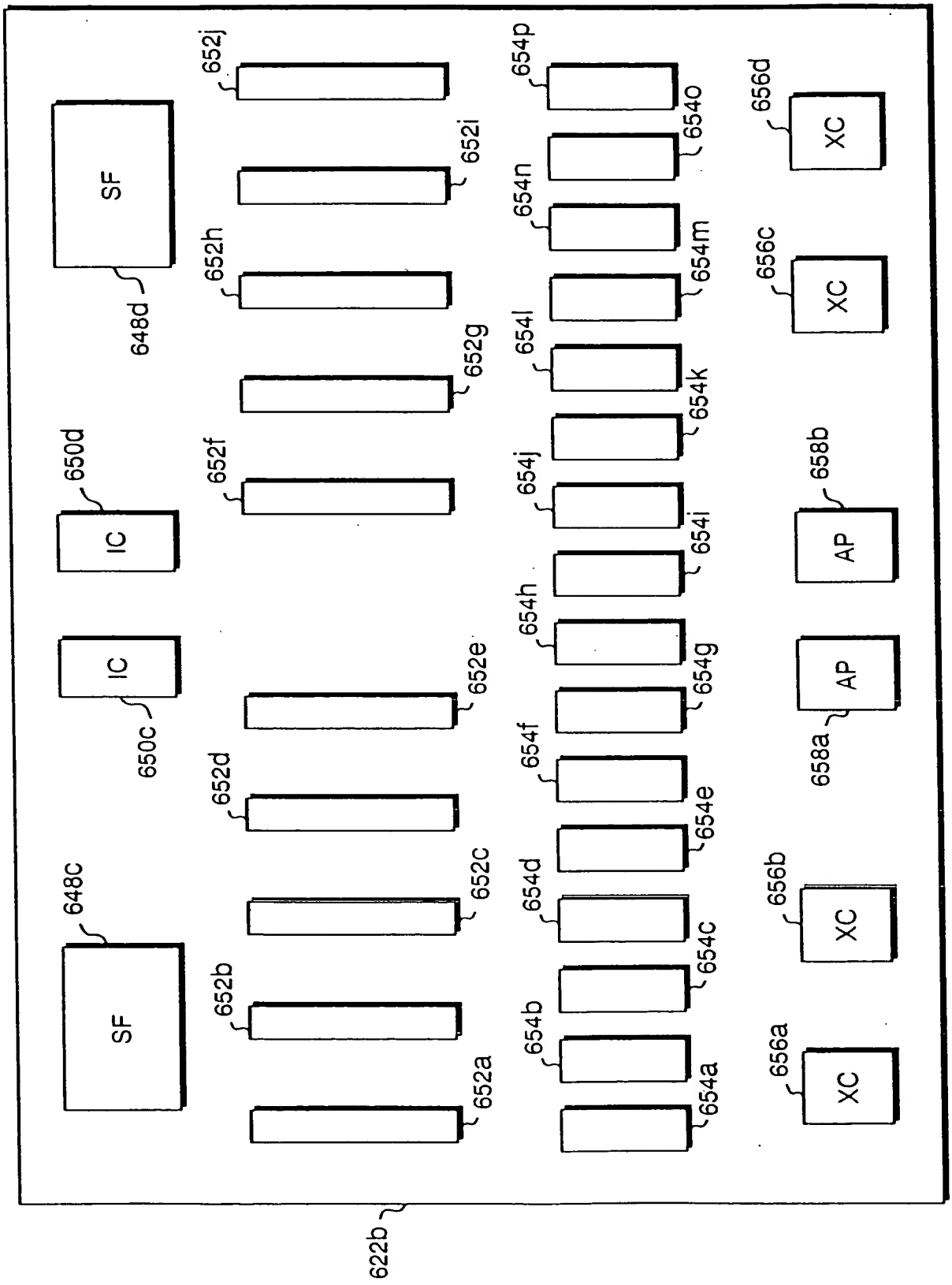


FIG. 42B

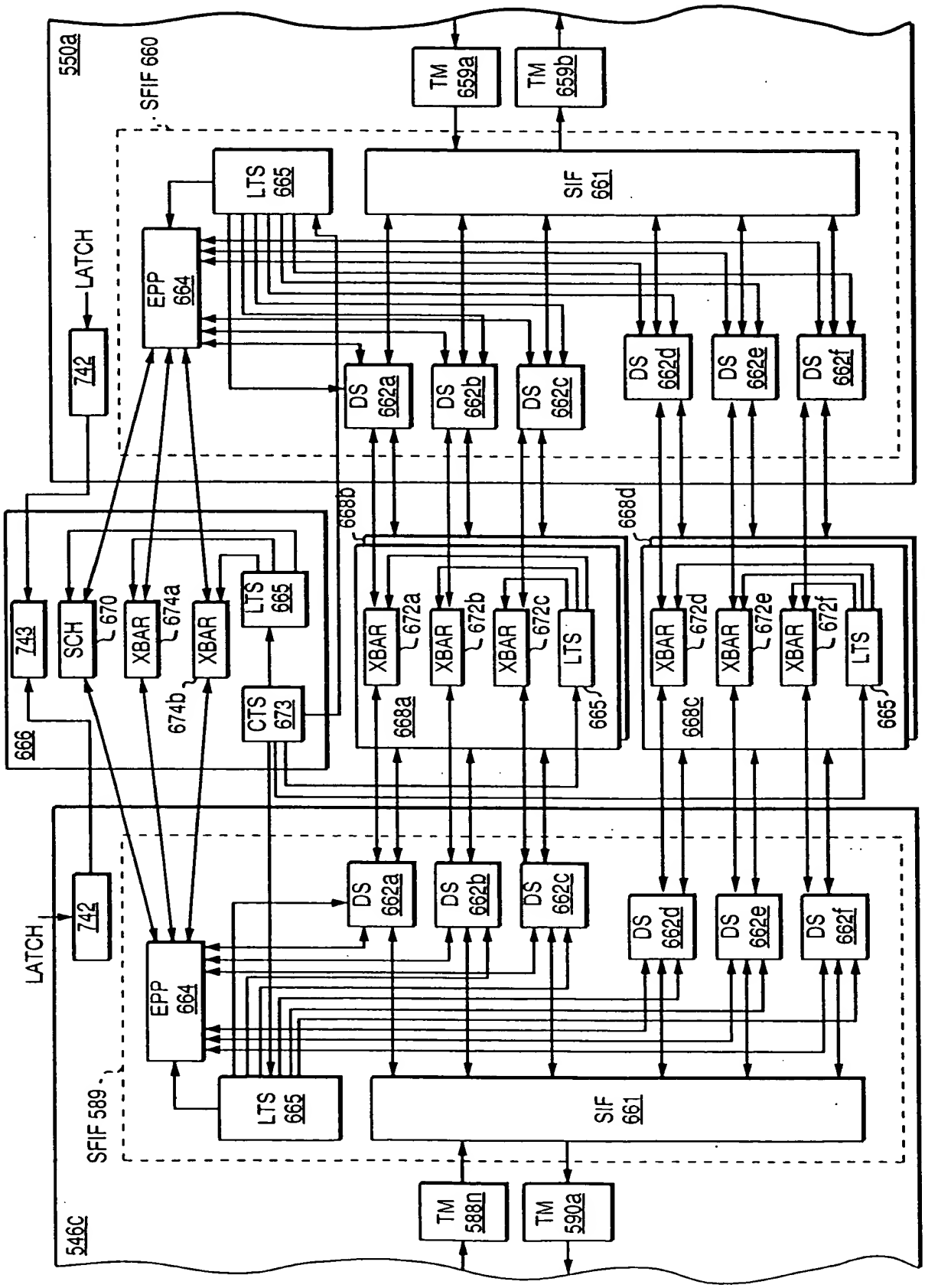


FIG. 43

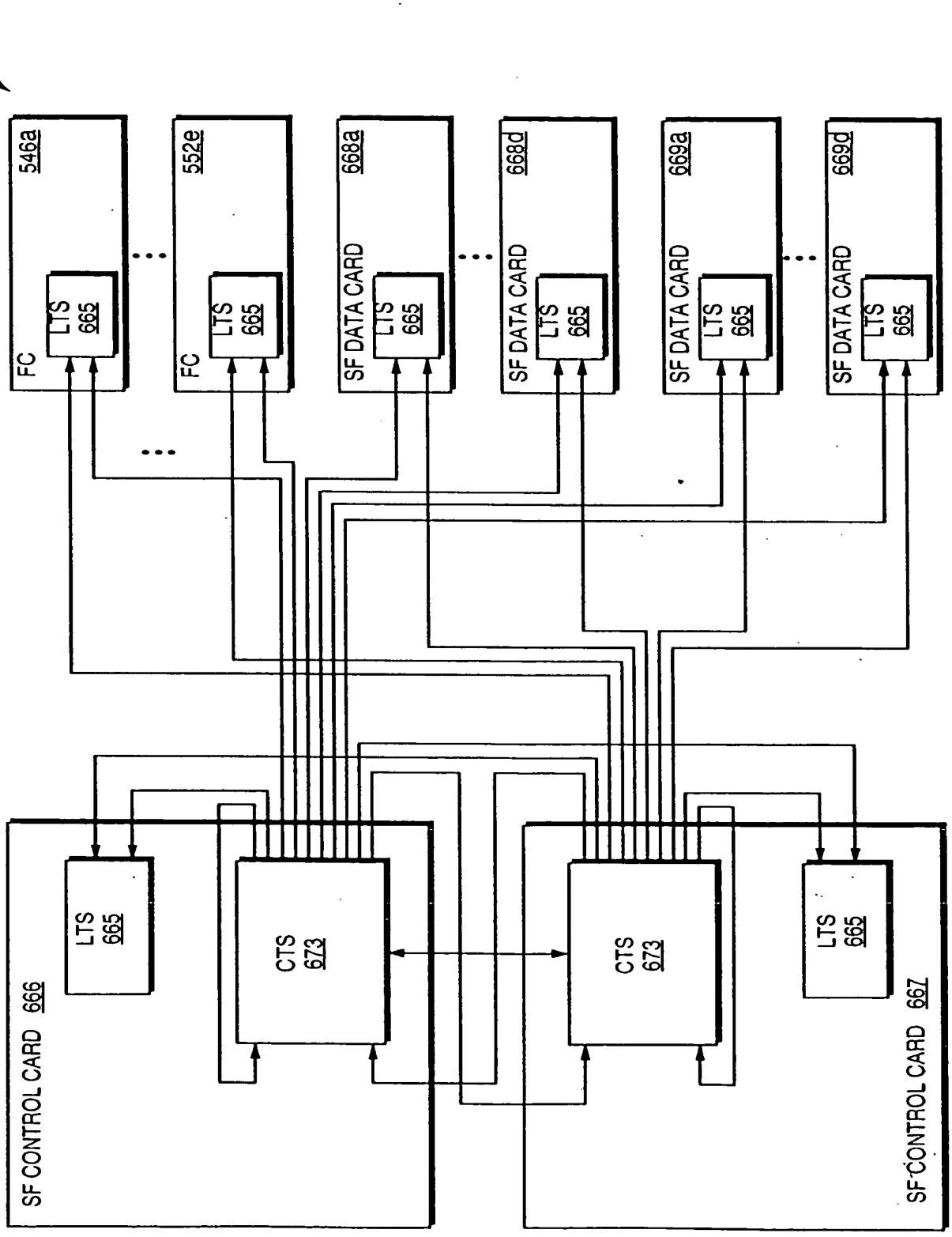


FIG. 44

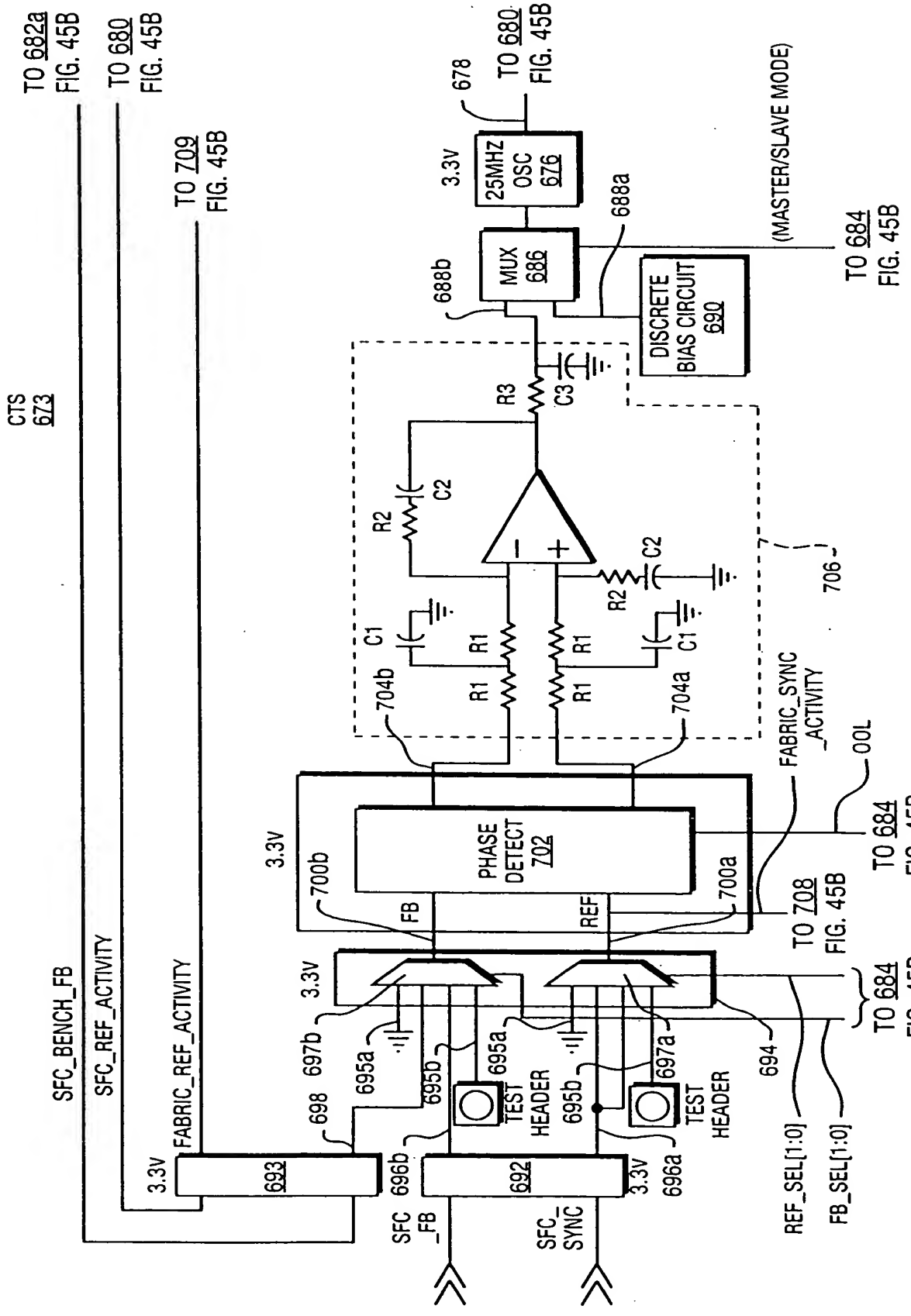


FIG. 45A

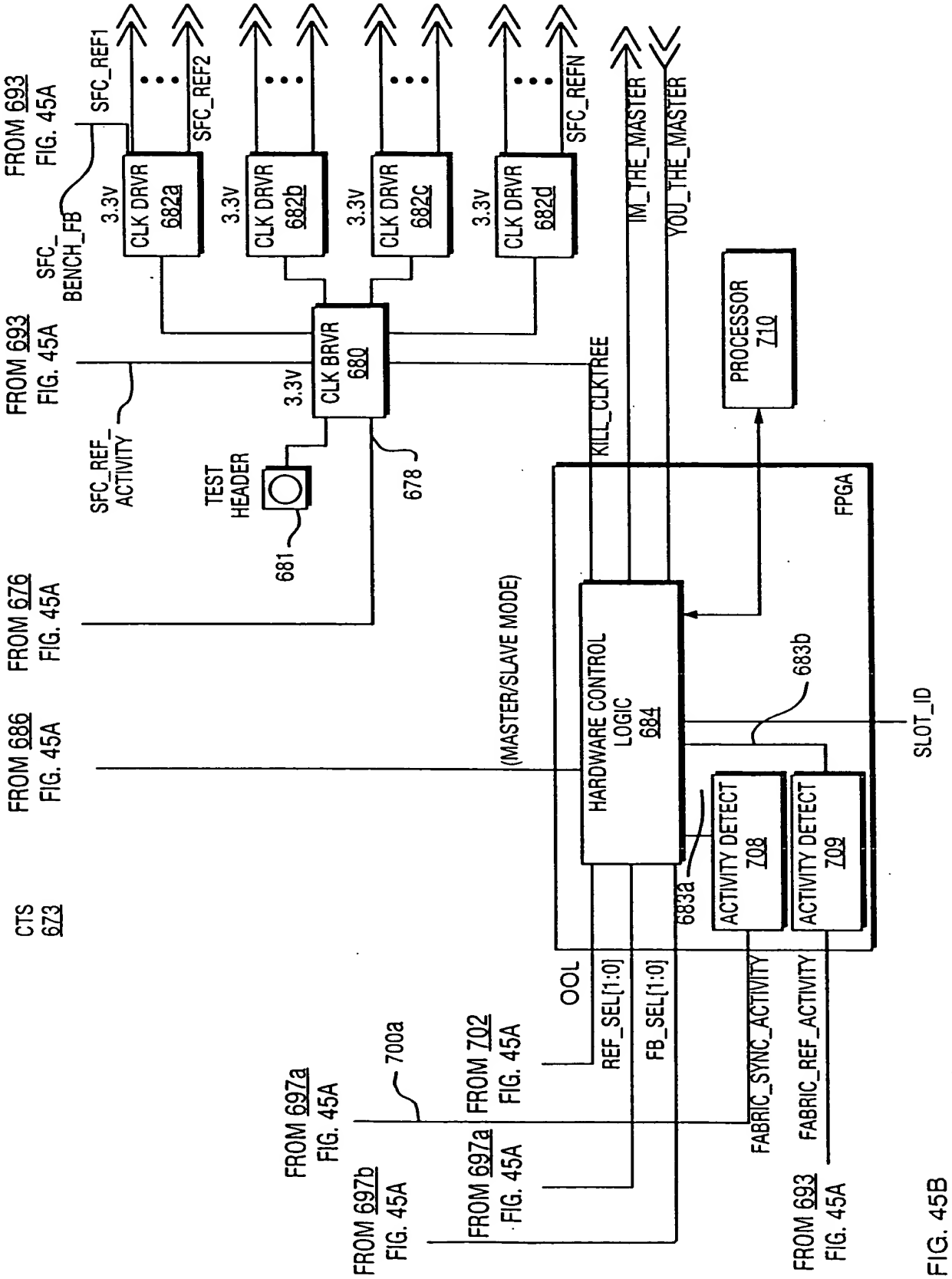


FIG. 45B

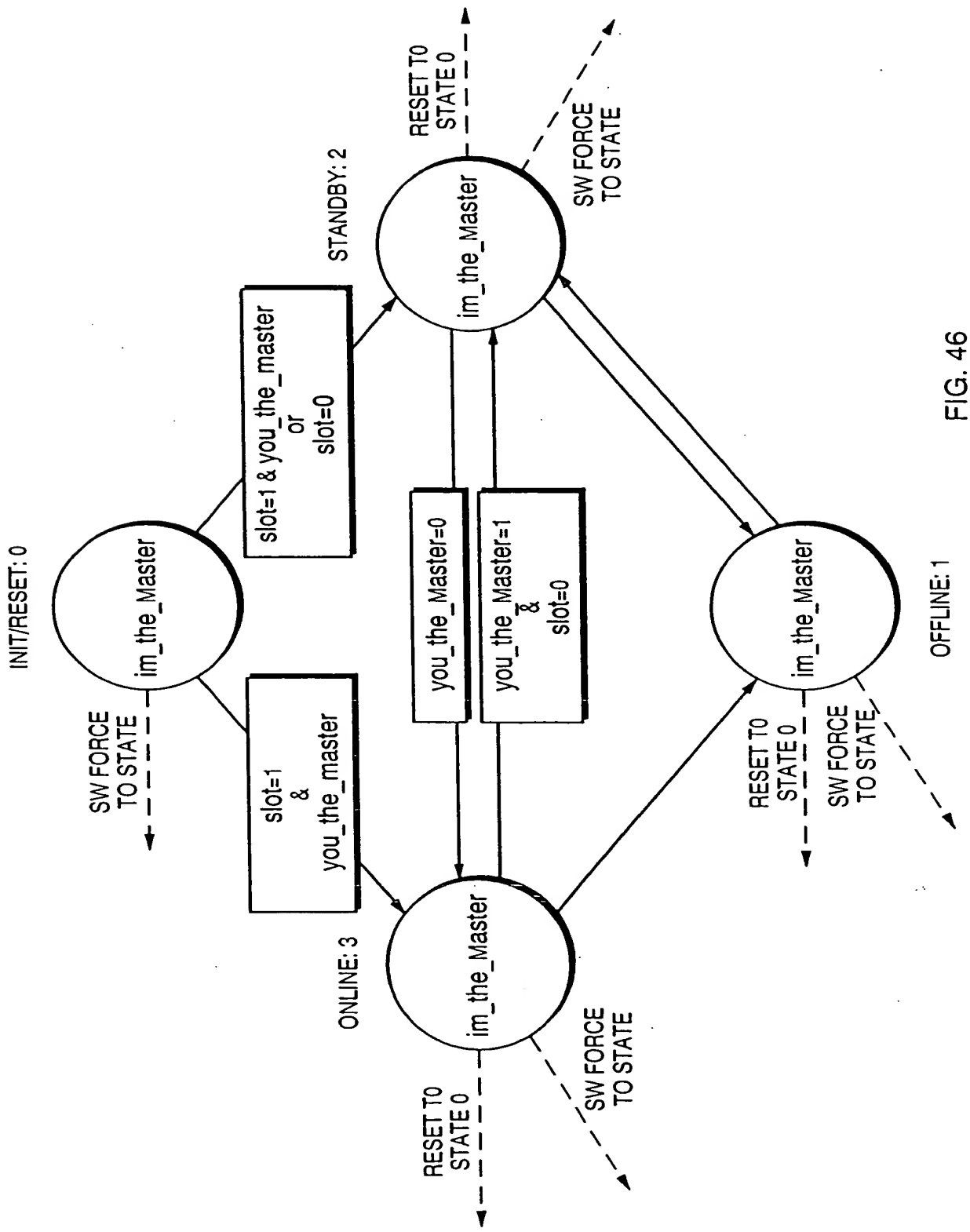


FIG. 46

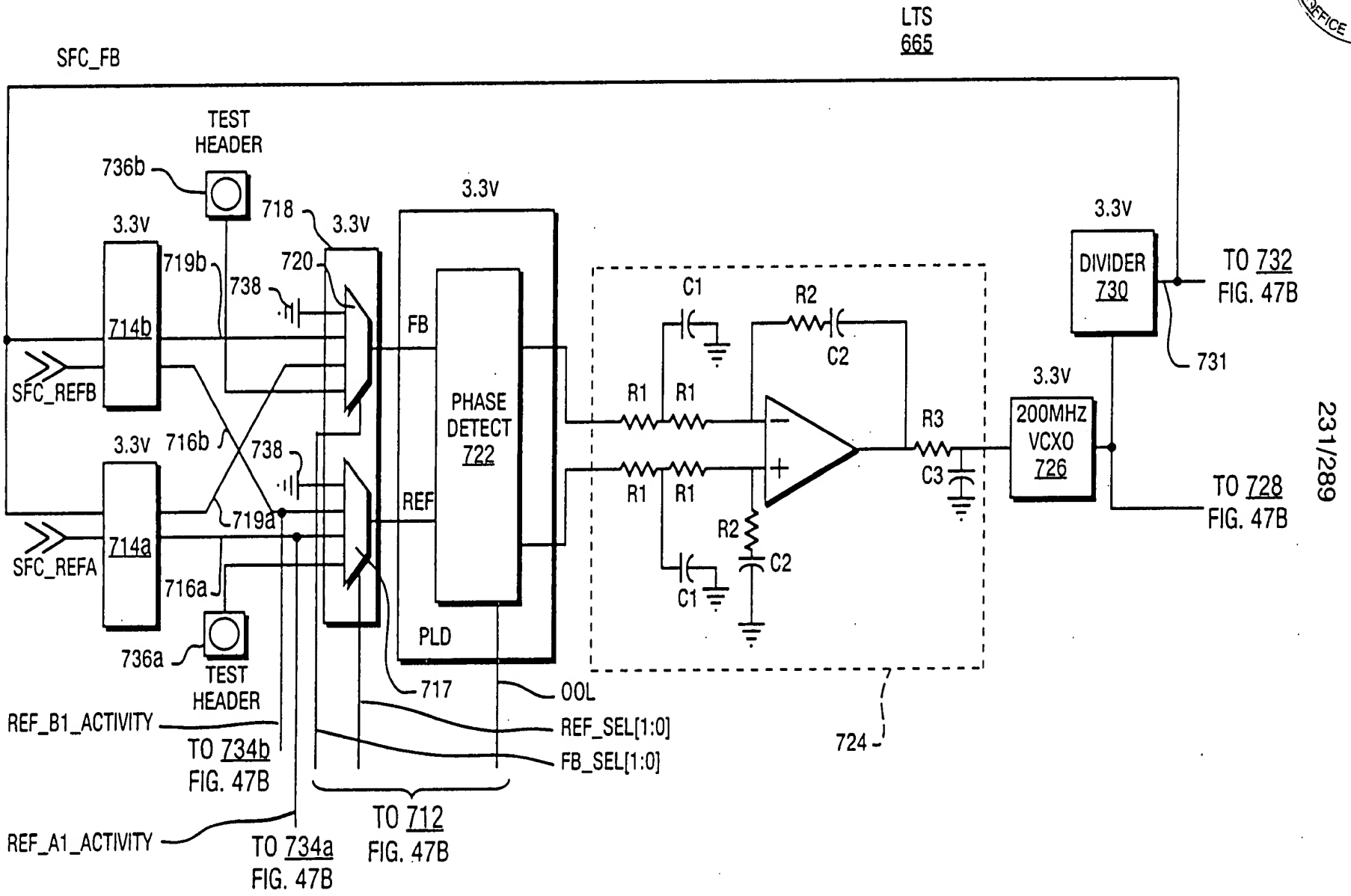


FIG. 47A

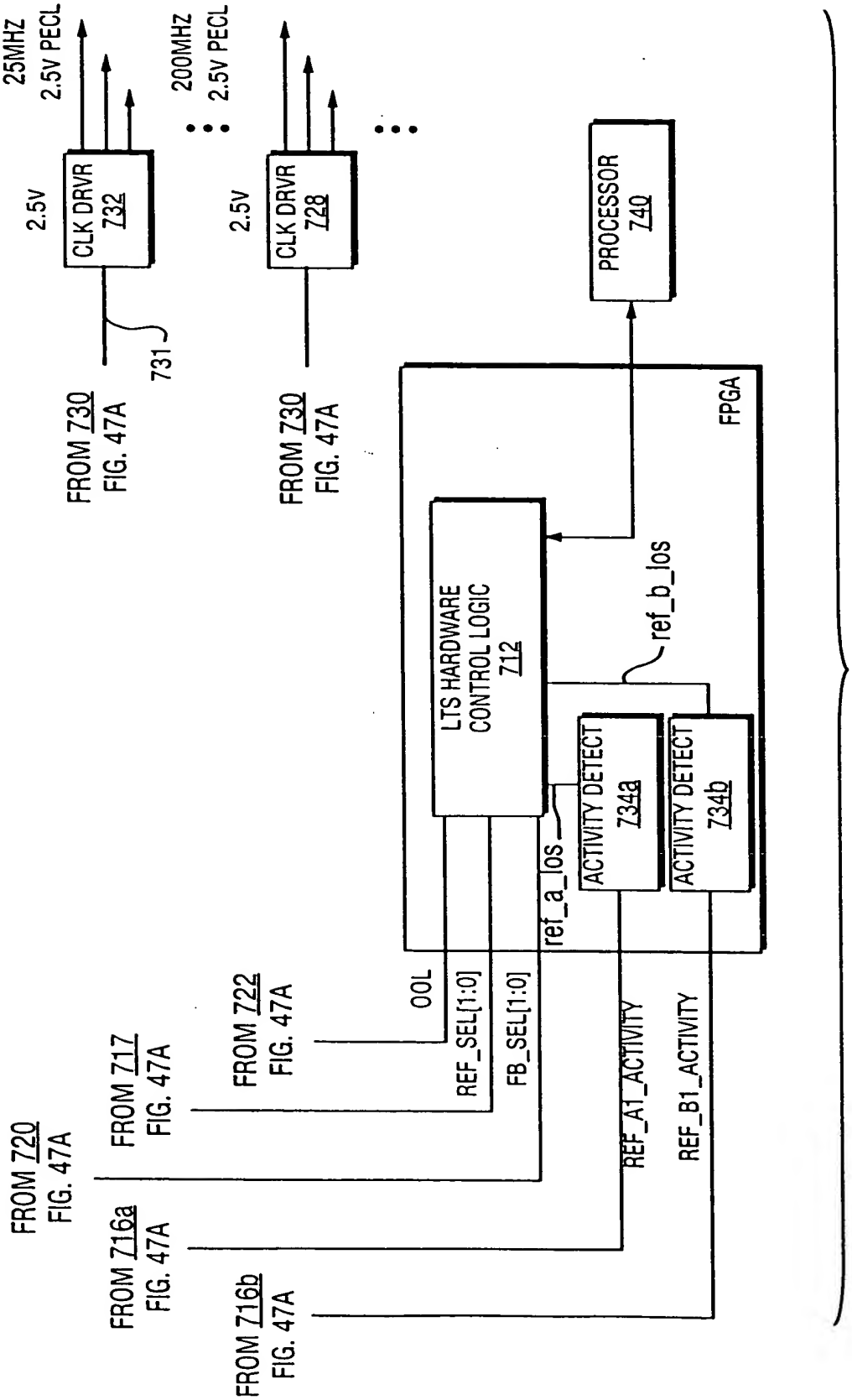


FIG. 47B

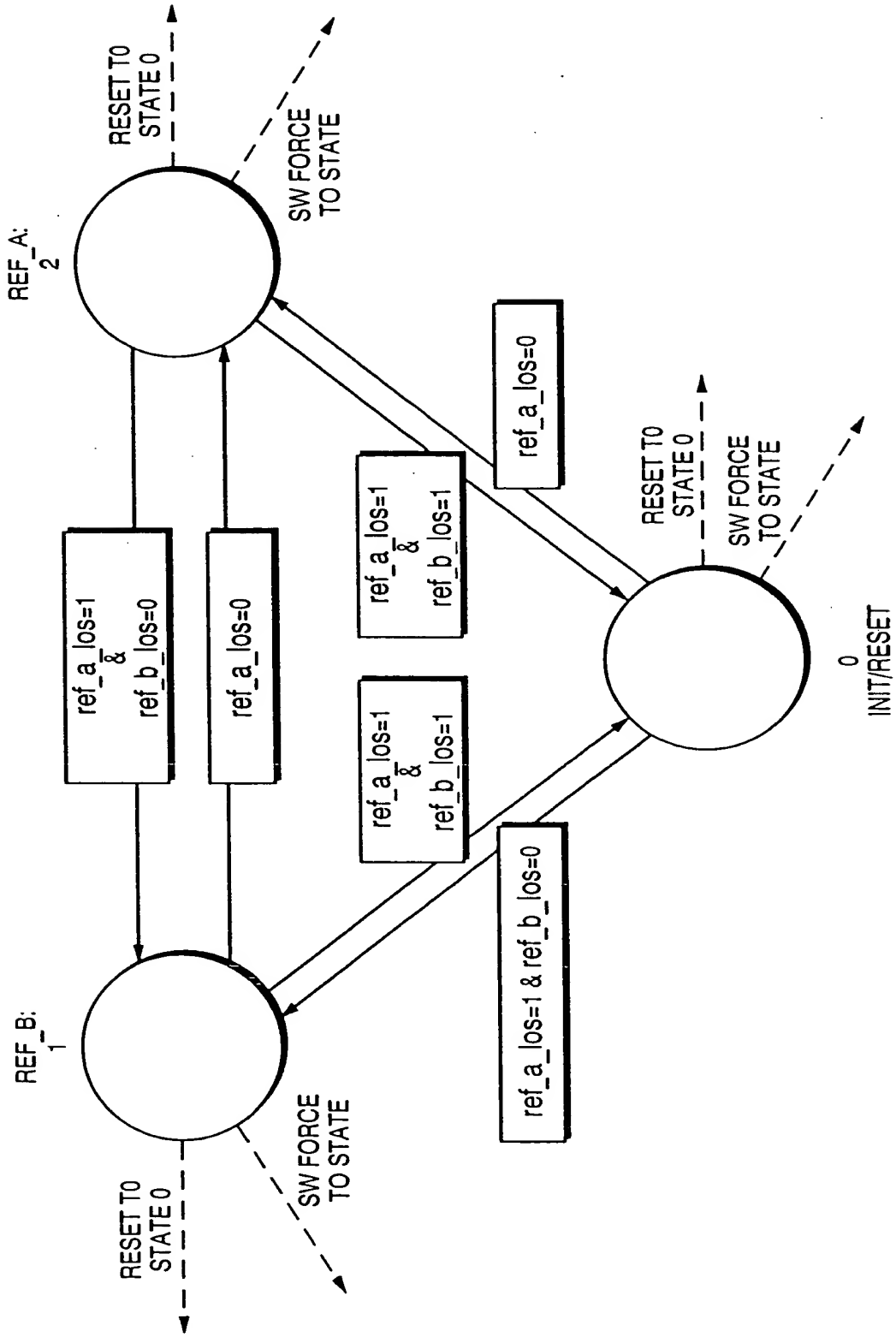


FIG. 48

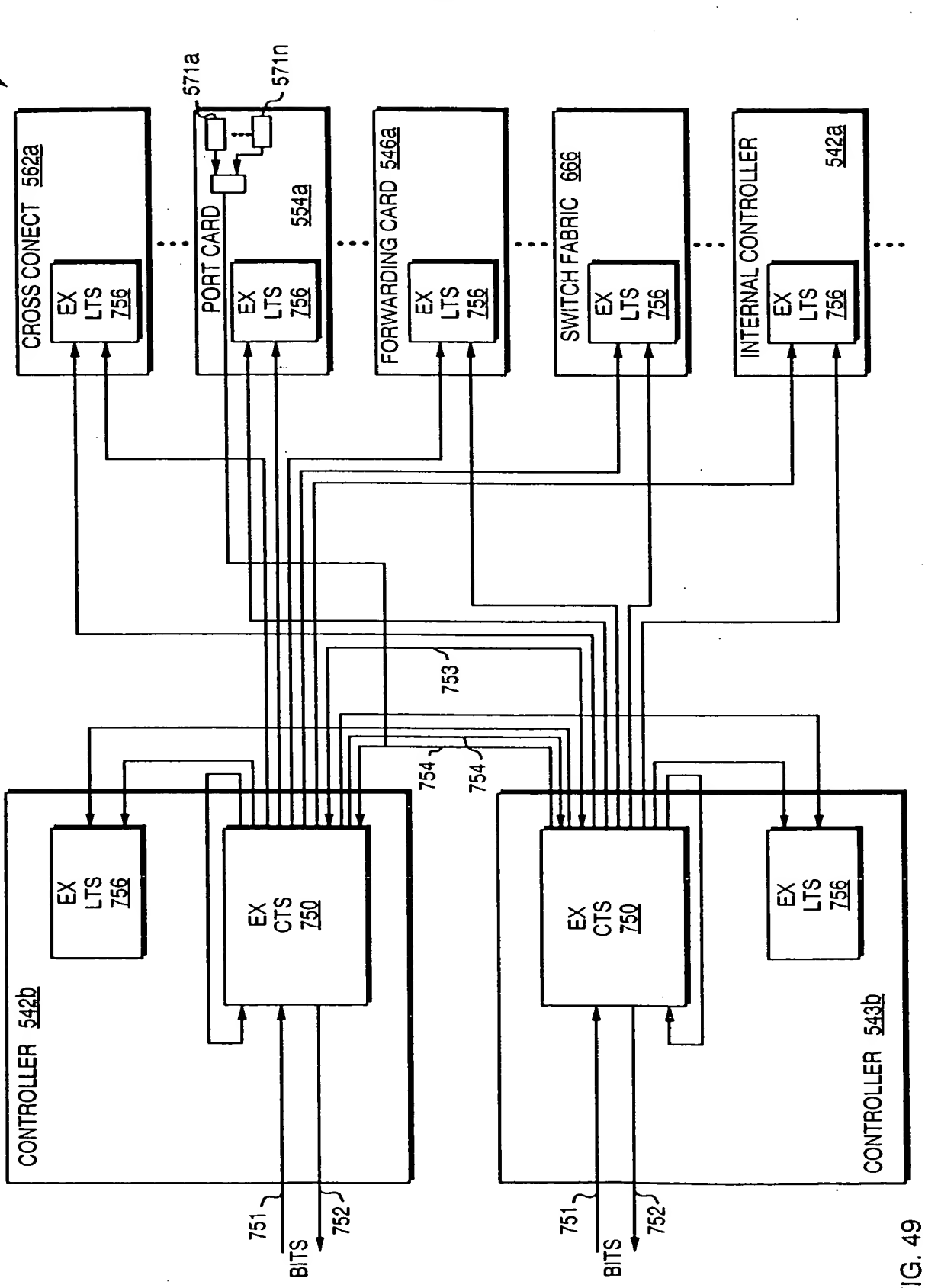


FIG. 49

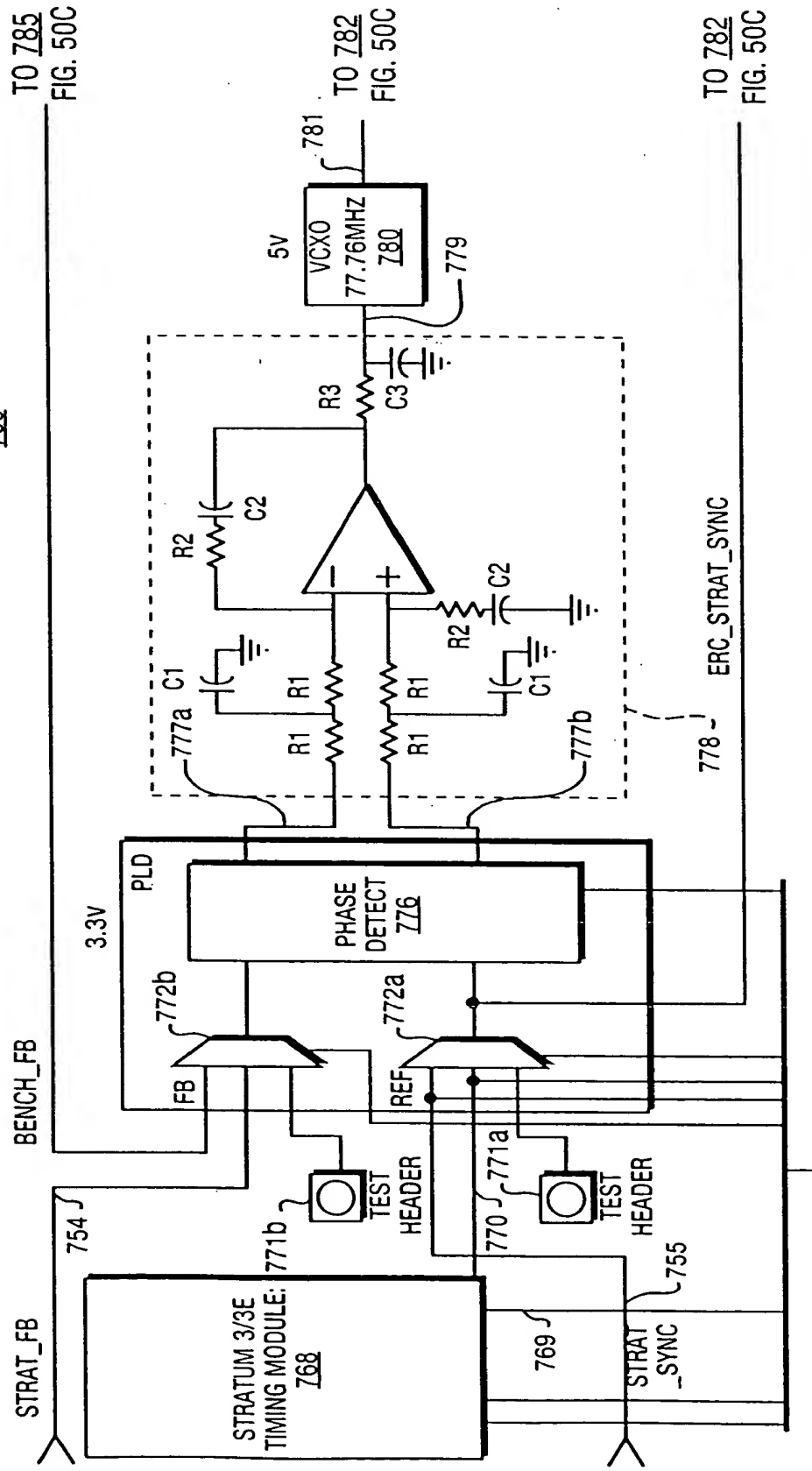


FIG. 50A

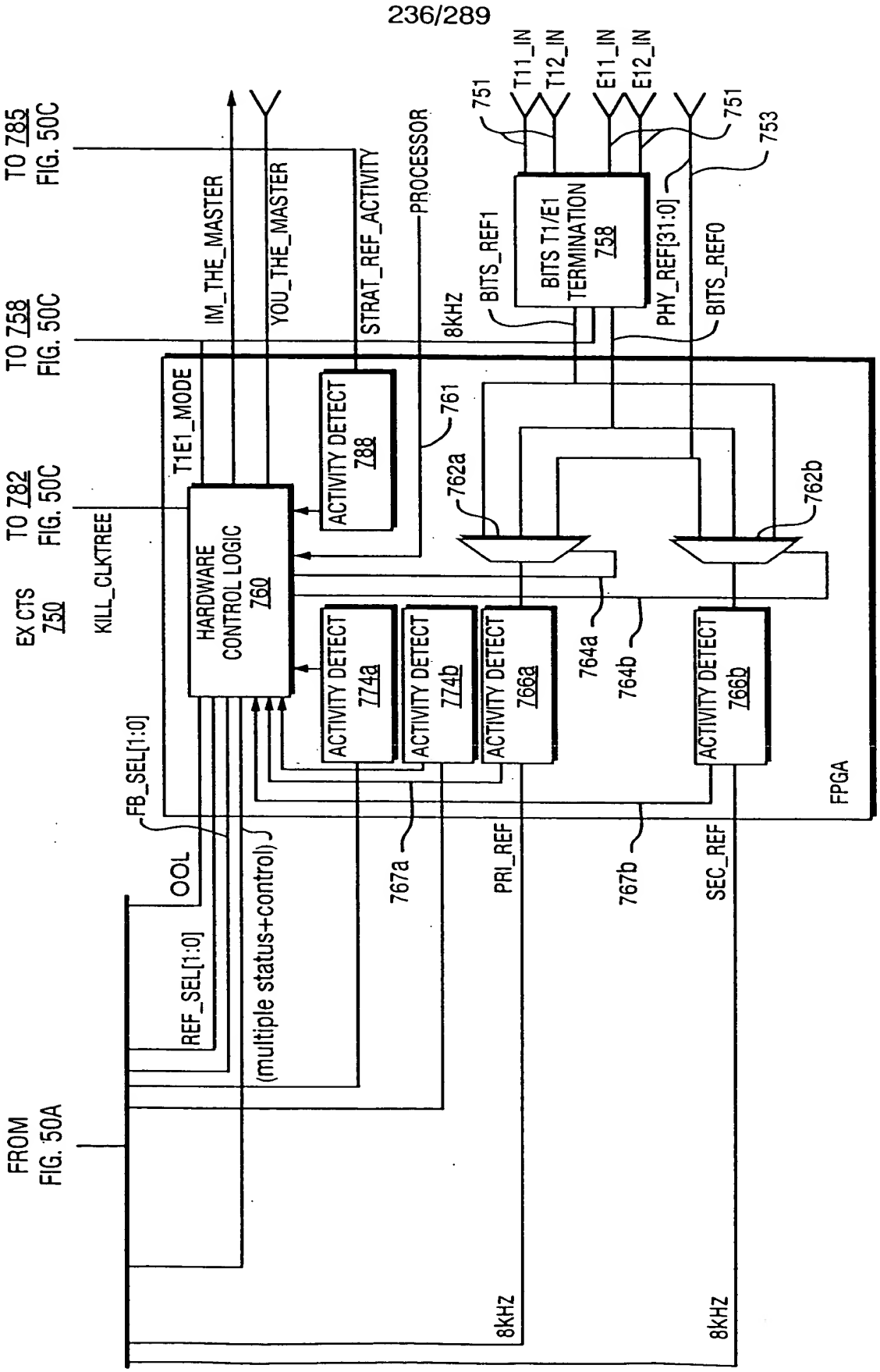


FIG. 50B

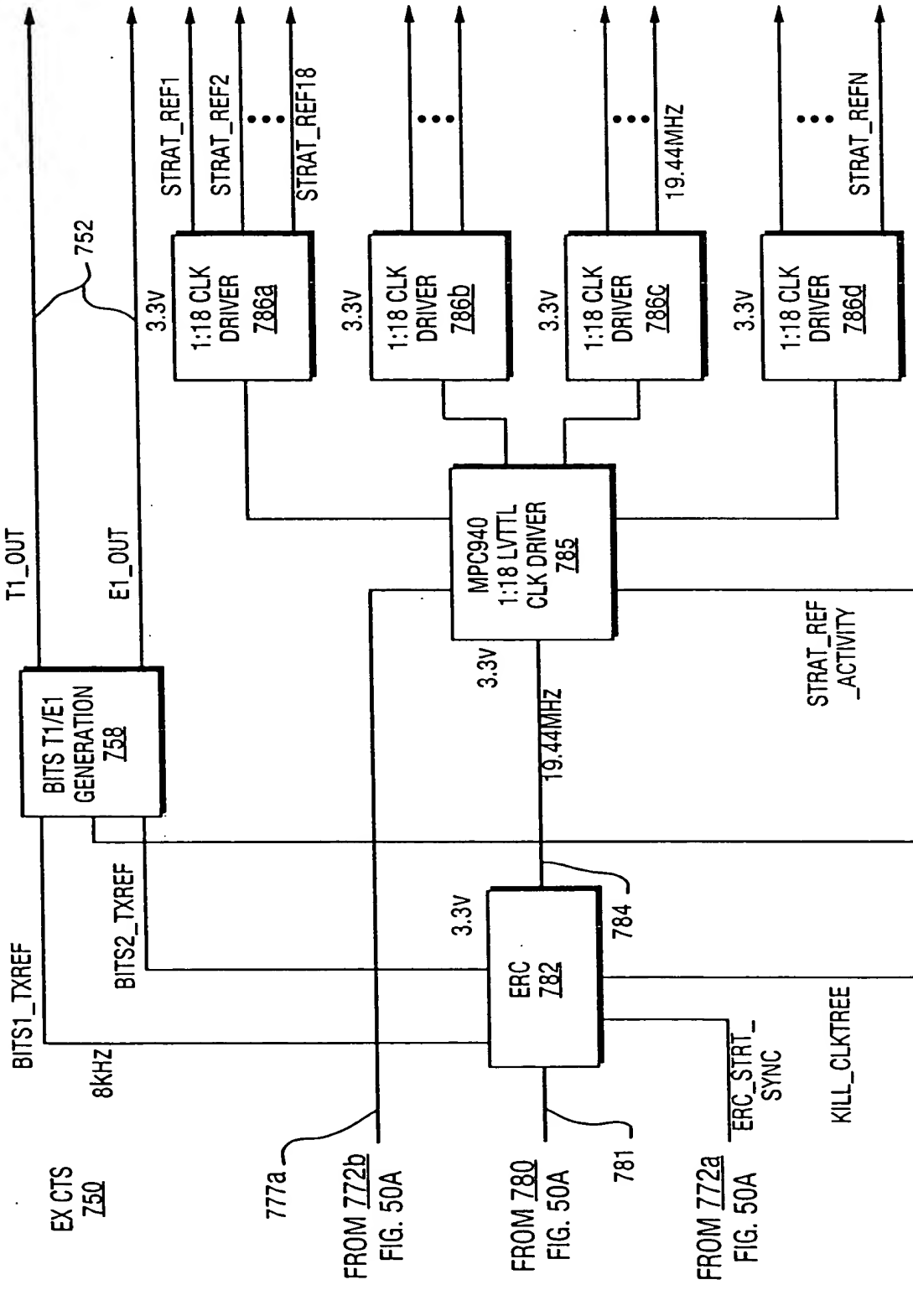


FIG. 50C

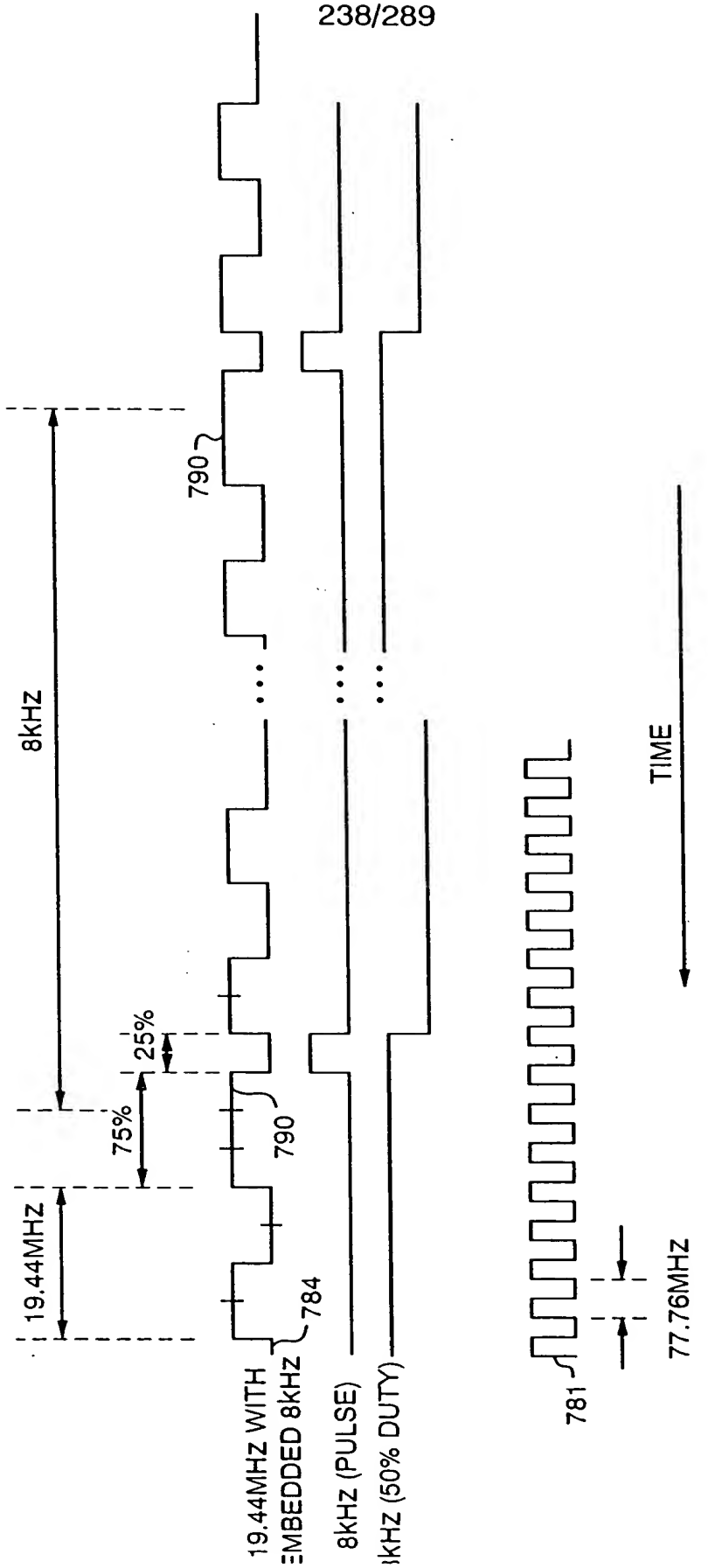


FIG. 51

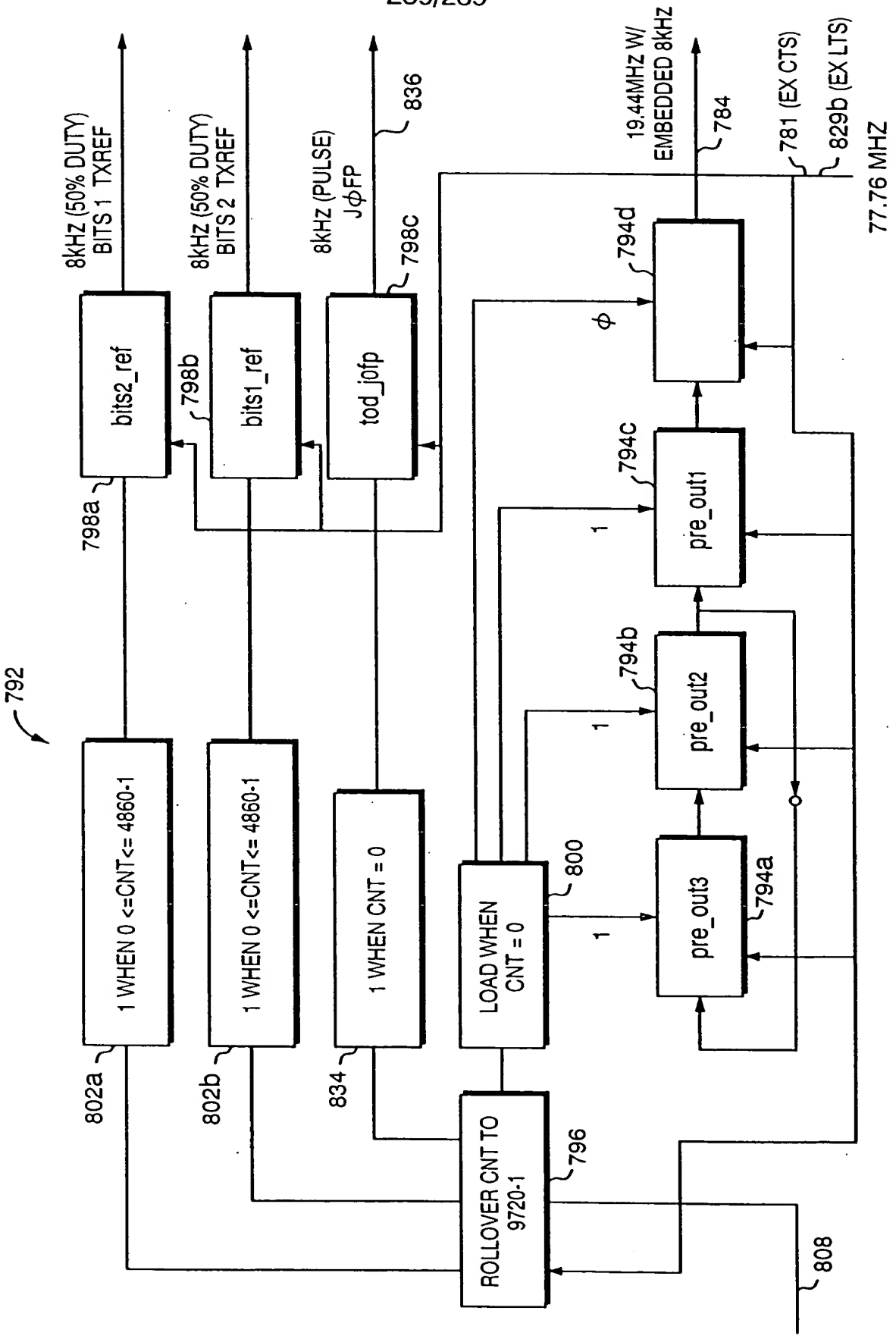


FIG. 52

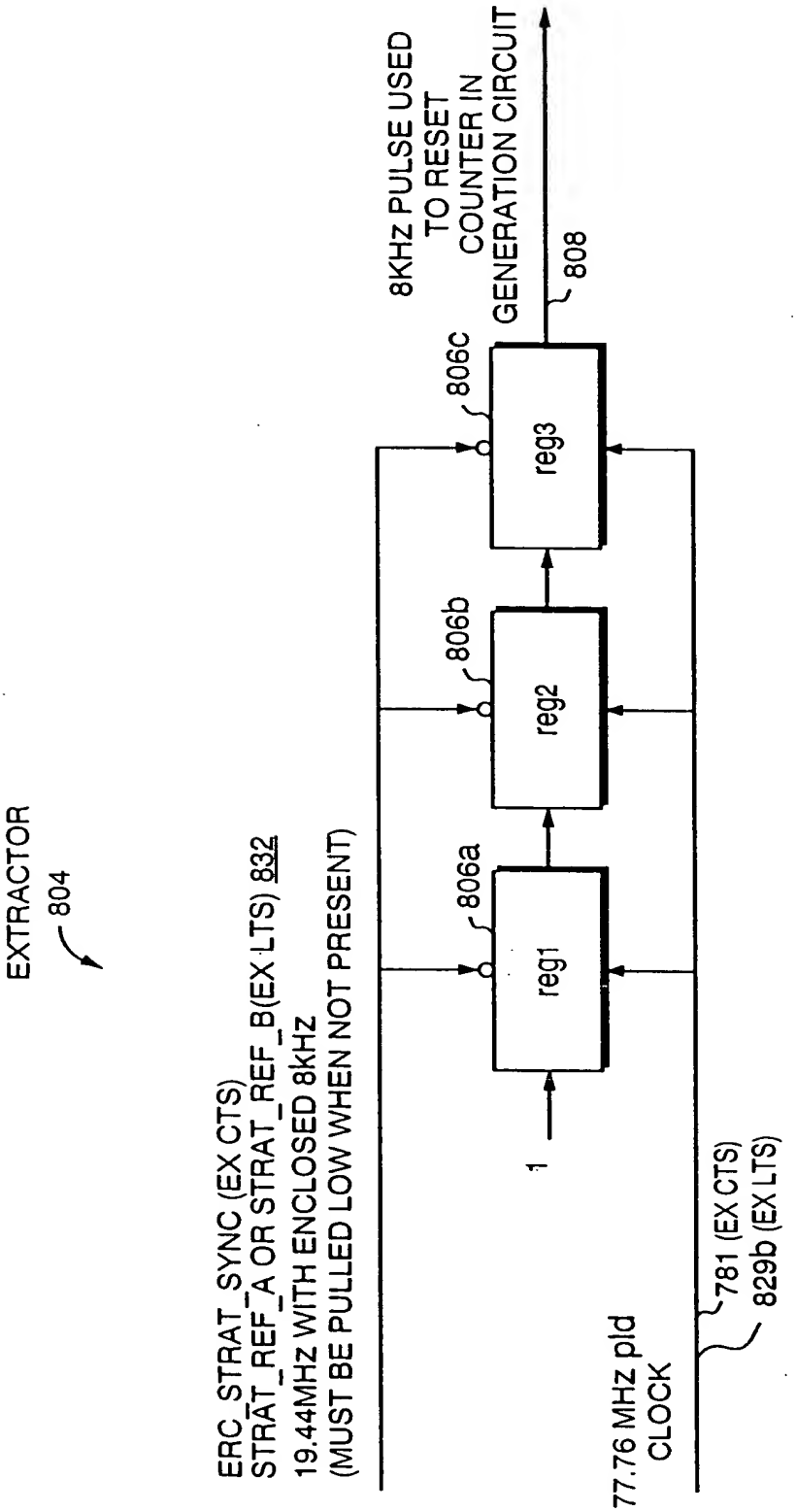


FIG. 53

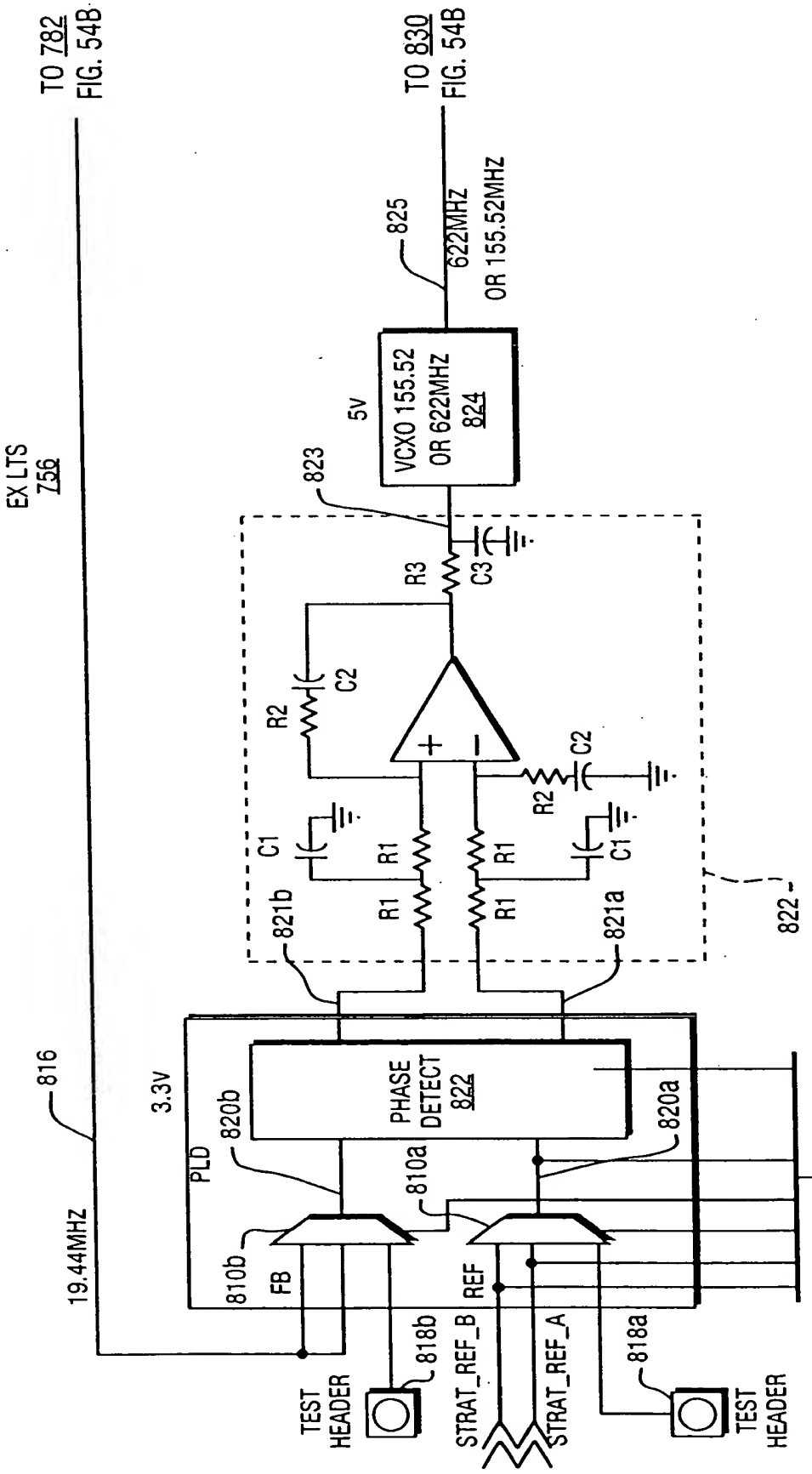


FIG. 54A

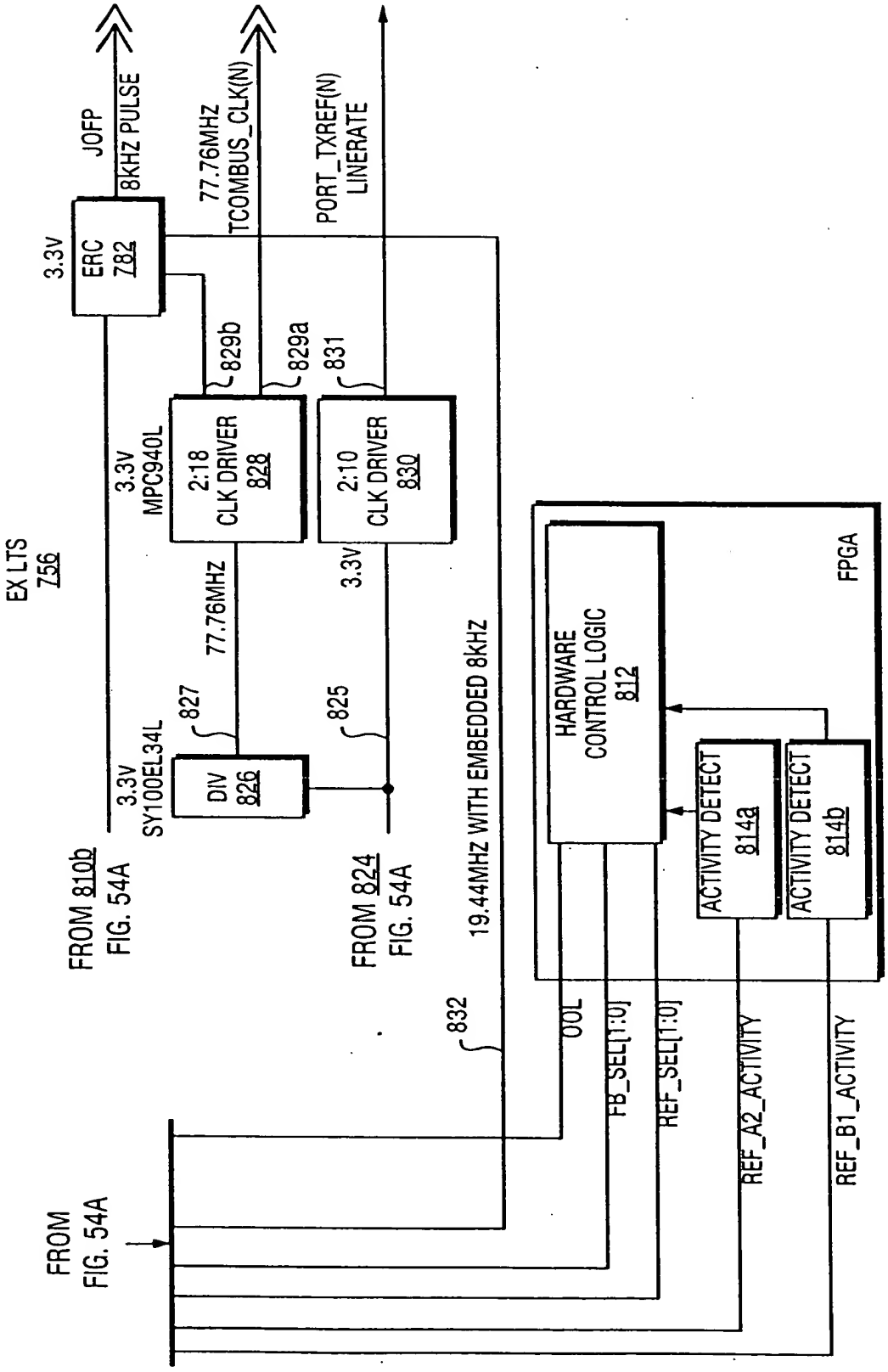


FIG. 54B

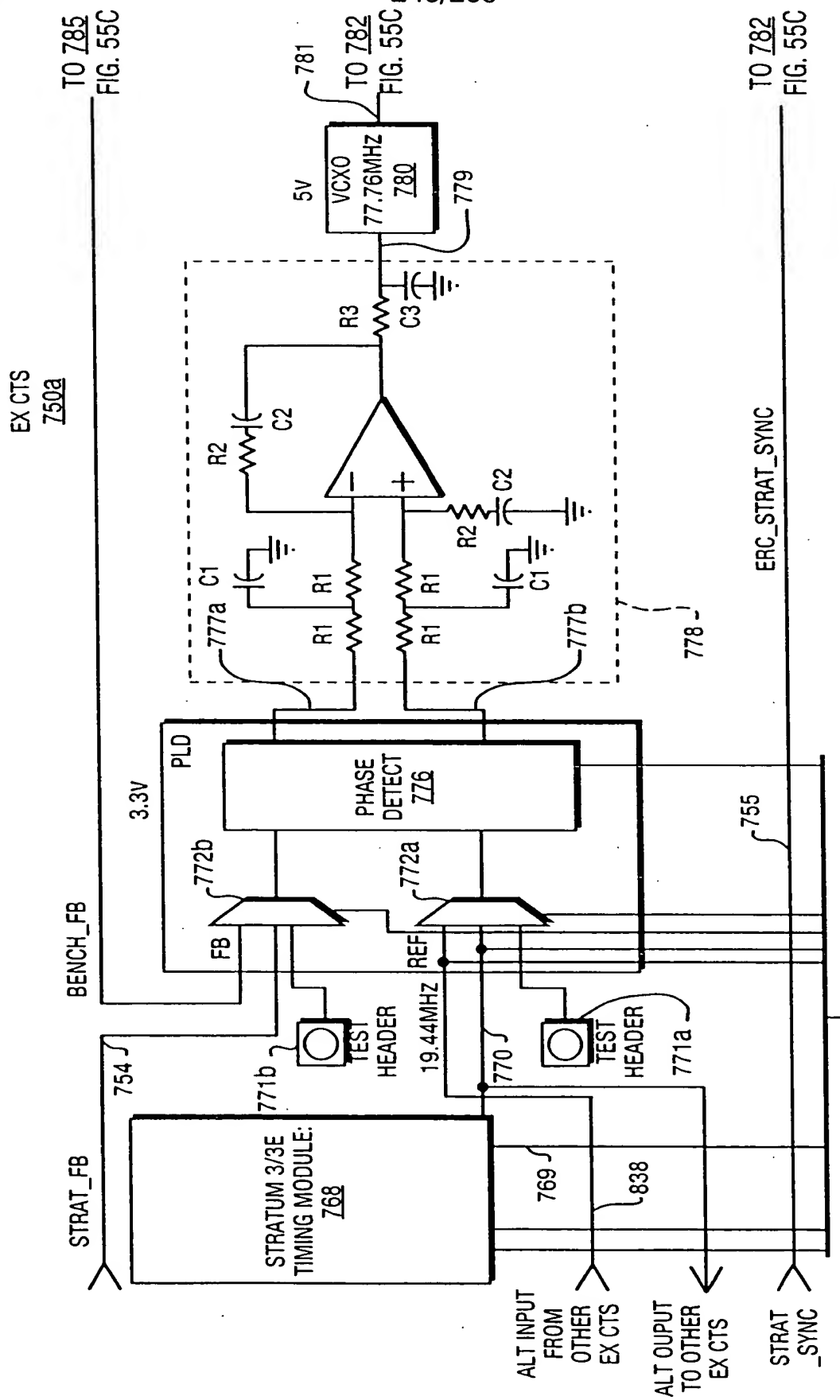


FIG. 55A

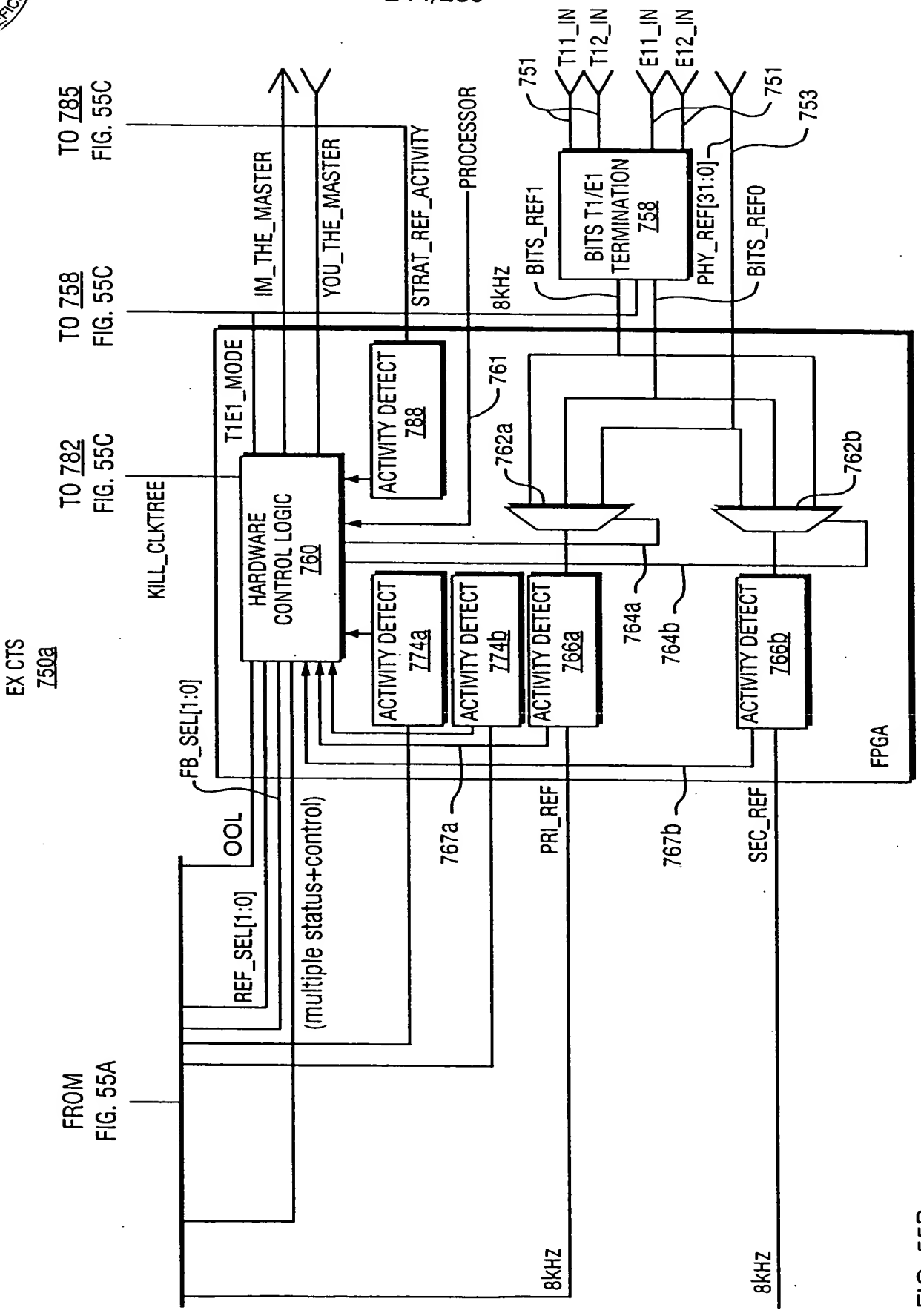


FIG. 55B

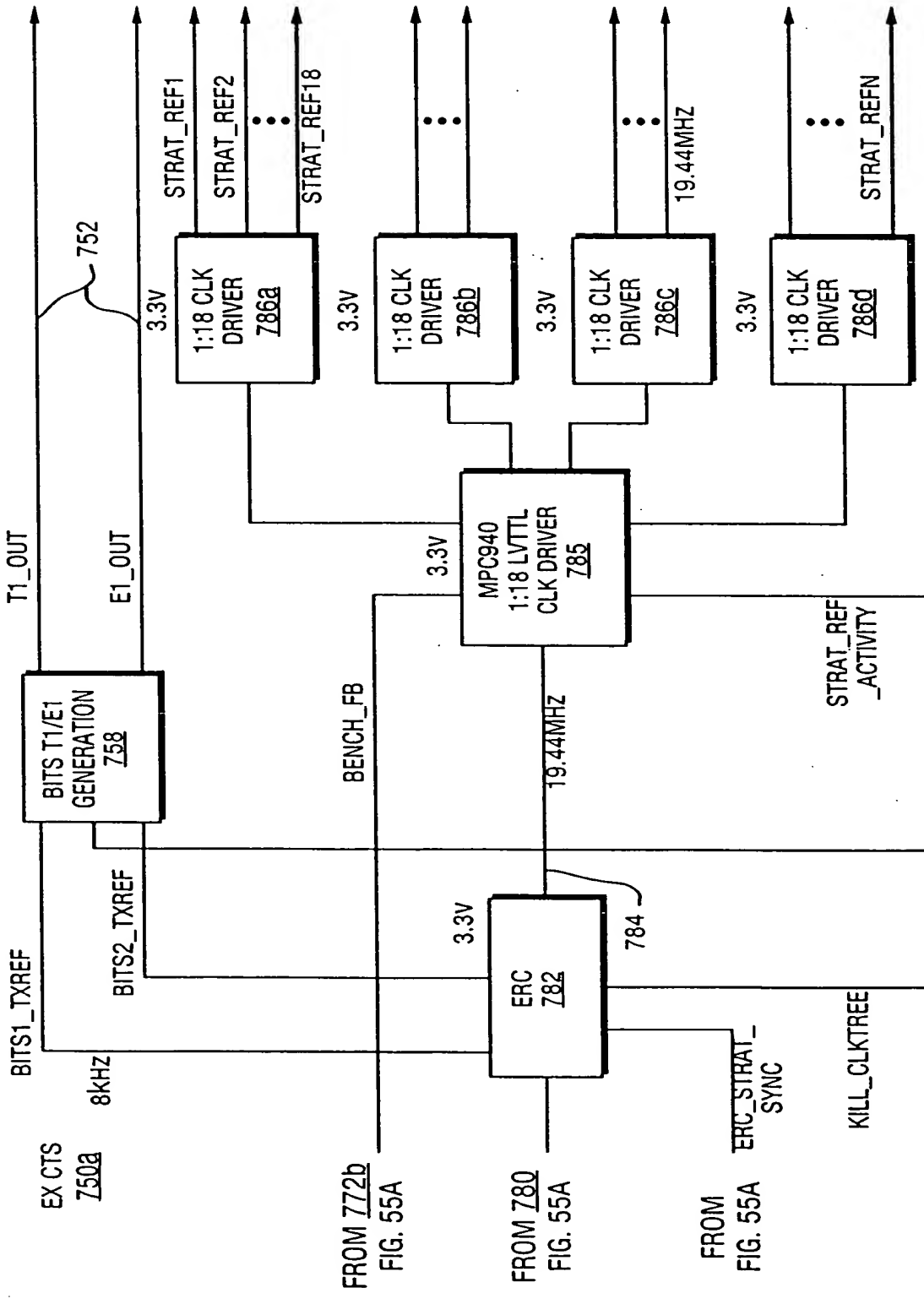


FIG. 55C

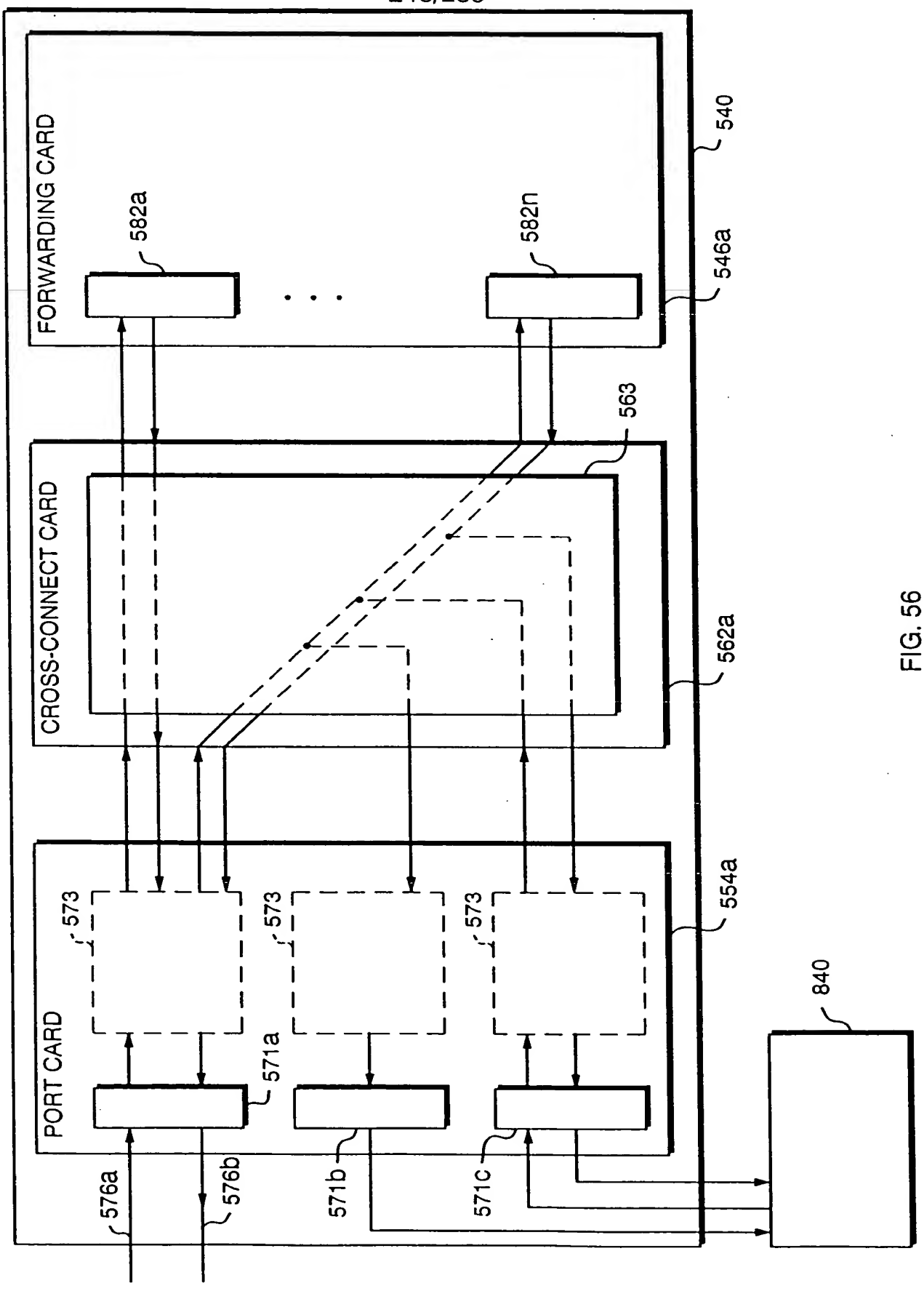


FIG. 56

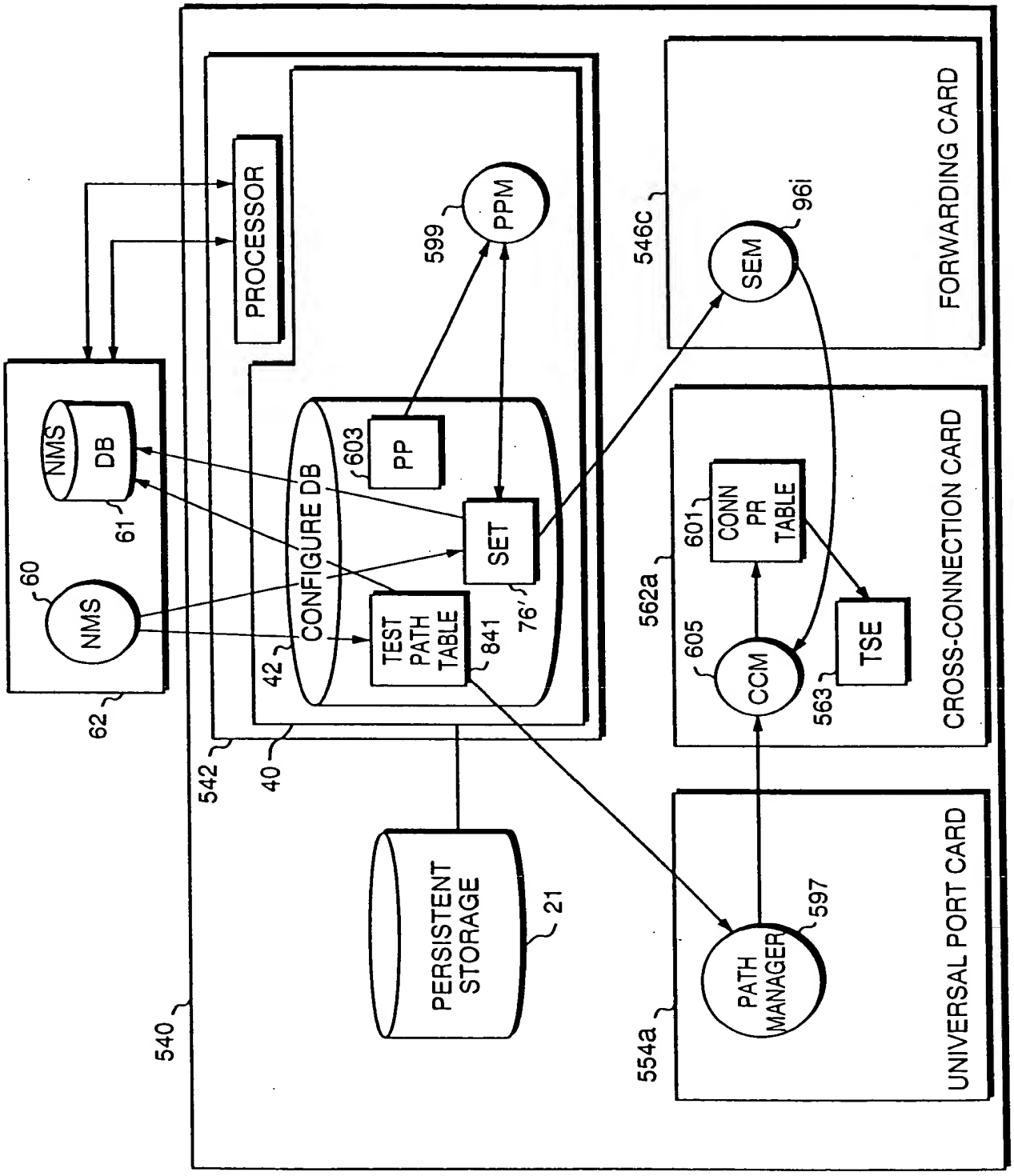


FIG. 57

TEST PATH TABLE 841

	PATH LID	UP PORT LID	TIME SLOT	# OF TIME SLOTS	MONITOR	ENABLE PORT RECEIVER	...
842	1666	1232	4	3	INGRESS	NO	
843	1666	1233	4	3	EGRESS	NO	
844	1666	1233	4	3	INGRESS	YES	
	. . .	. . .	. . .	. . .			. . .

844 845

FIG. 58

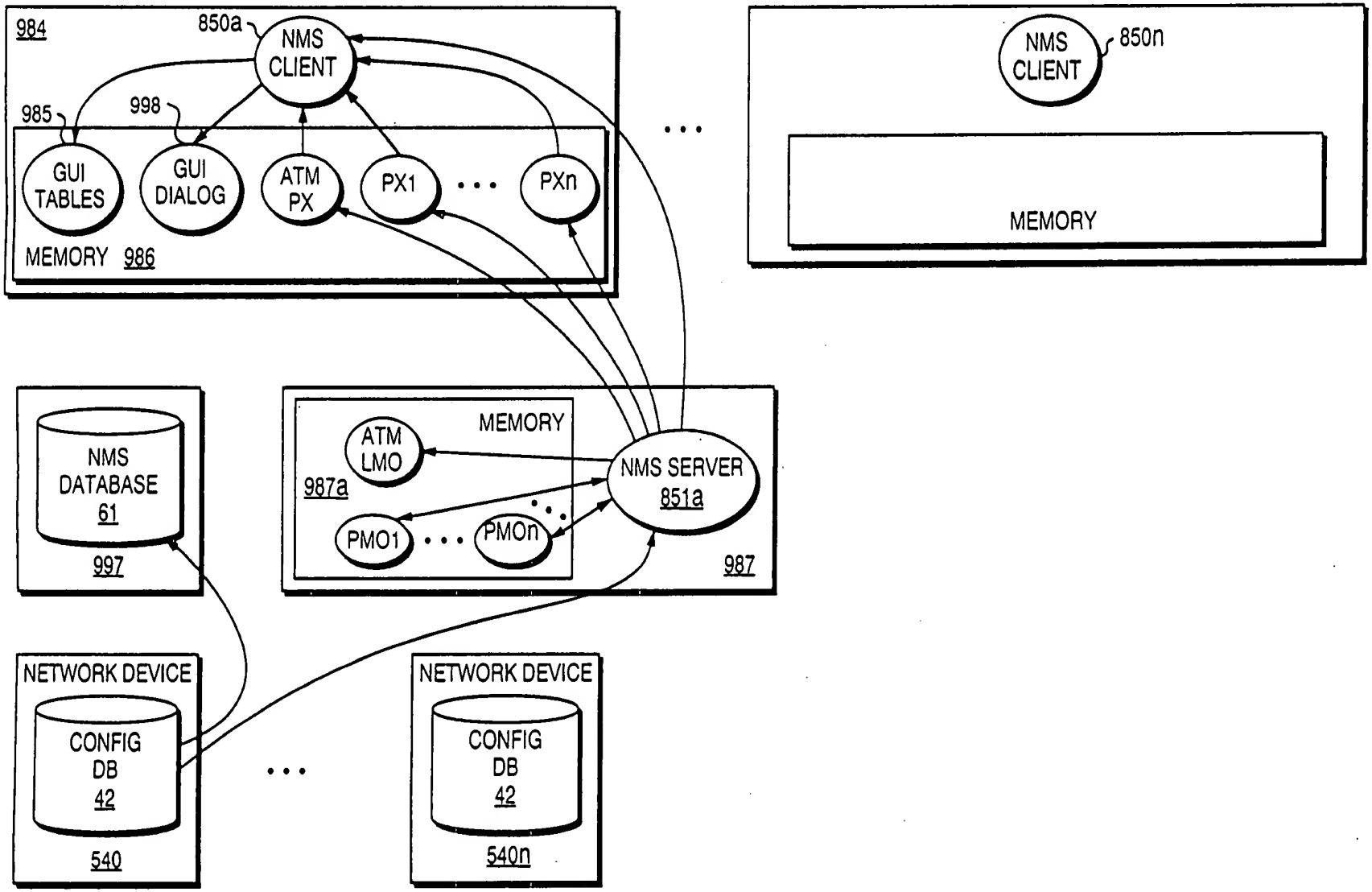


FIG. 59

MANAGED DEVICE TABLE 983

983b PID	A1	• • •	An
1			

983a

FIG 60A

CHASSIS TABLE 988

988b PID	A1	• • •	An	MANAGED DEVICE PID (988c)
1				1 (988a)
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•

FIG 60B

SHELF TABLE 989

989a PID	A1	• • •	An	CHASSIS PID (989b)
3				2
4				2
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•
18				2

FIG 60C

SLOT TABLE 990

990a PID	A1	• • •	An	SHELF PID (990b)
990c 20				3
21				3
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•
990d 116				18

FIG 60D

CARD TABLE 47'

47a PID	CWD TYPE	VERSION NO.	47b SLOT PID	...
120	0XF002	3	20	
121	0XF002	4	21	
. . .	. . .	. . .	. . .	. . .
124	0X6002	1	24	
. . .	. . .	. . .	. . .	. . .
131	0XF002	1	31	
. . .	. . .	. . .	. . .	. . .

FIG 60E

PORT TABLE 49'

49a PID	PORT TYPE	VERSION NO.	49b CARD PID	...
300	00620	1	20	
301	00620	1	20	
302	00620	1	20	
303	00620	1	20	
304	00820	1	20	
. . .	. . .	. . .	. . .	. . .
400	OO620	1	39	
. . .	. . .	. . .	. . .	. . .

FIG 60F

SONET PATH TABLE 600'

600b

600a

PATH LID	PORT LID	TIME SLOT	# OF TIME SLOTS	...
901	304	4	3	

FIG. 60G

SERVICE ENDPOINT TABLE 76''

76c 76d 76e 76b

76a

SE LID	Q #	FC PID	FC SLICE PID	FC TIME SLOT	PATH LID	...
3000					901	

FIG. 60H

ATM IF TABLE 114''

114b

114a

ATM IF LID	ATM GROUP LID	SE LID	...
5054		3000	...
			...

FIG. 60I

VIRTUAL ATM IF TABLE 993

993a

993b

LID	A1	• • •	An	ATM IF LID
7489				5054
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•

FIG 60J

VIRTUAL CONNECTION TABLE 994

994a

994b

LID	A1	• • •	An	VIR. ATM IF LID
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•

FIG 60K

VIRTUAL LINK TABLE 995

995a

995b

995c

LID	A1	• • •	An	VIR. CONN. LID	CROSS. CONN. LID
•	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•

FIG 60L

CROSS-CONNECT TABLE 996

996a

996b

996c

LID	A1	• • •	An	VIR. LINK1 LID	VIR. LINK2 LID
•	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•

FIG 60M

ATM NODE TABLE 999

999a

999b

999c

LID	A1	• • •	An	MANAGED DEVICE PID
5000				1

FIG 60N

PHYSICAL MANAGED OBJECT 991

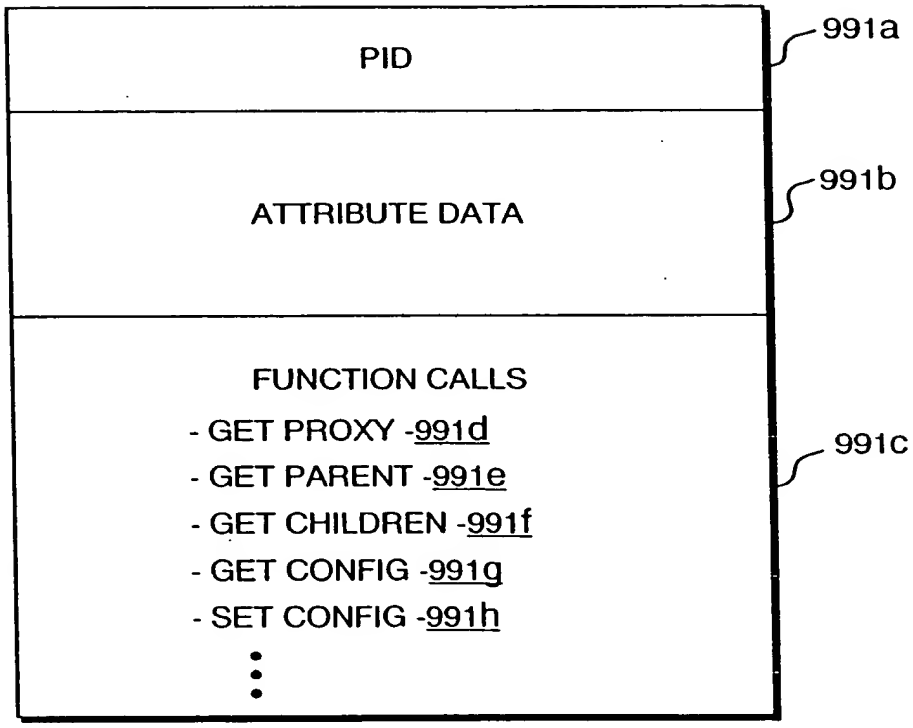


FIG. 61A

PROXY 992

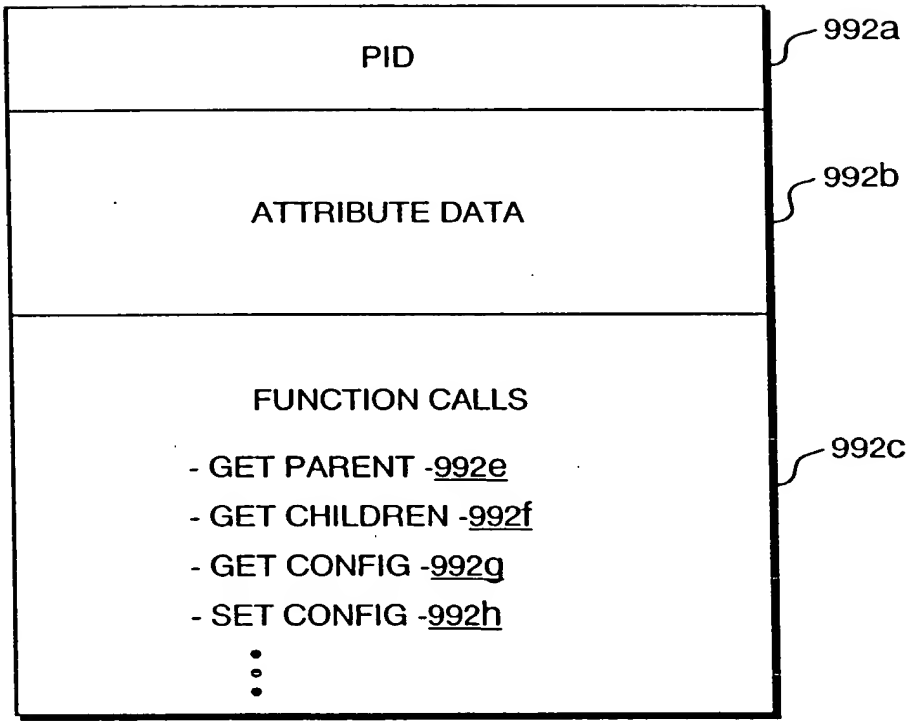


FIG. 61B

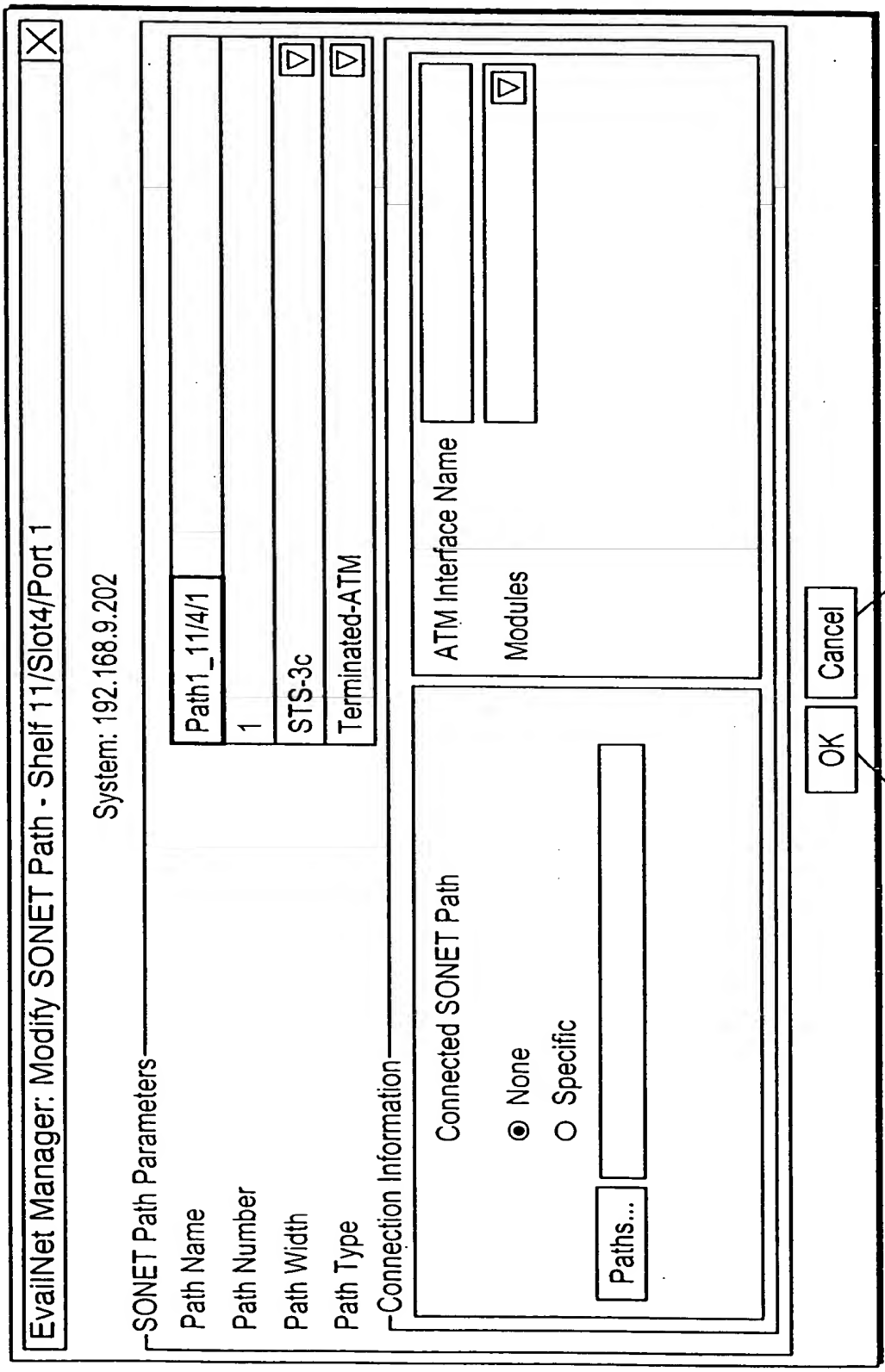


FIG. 62

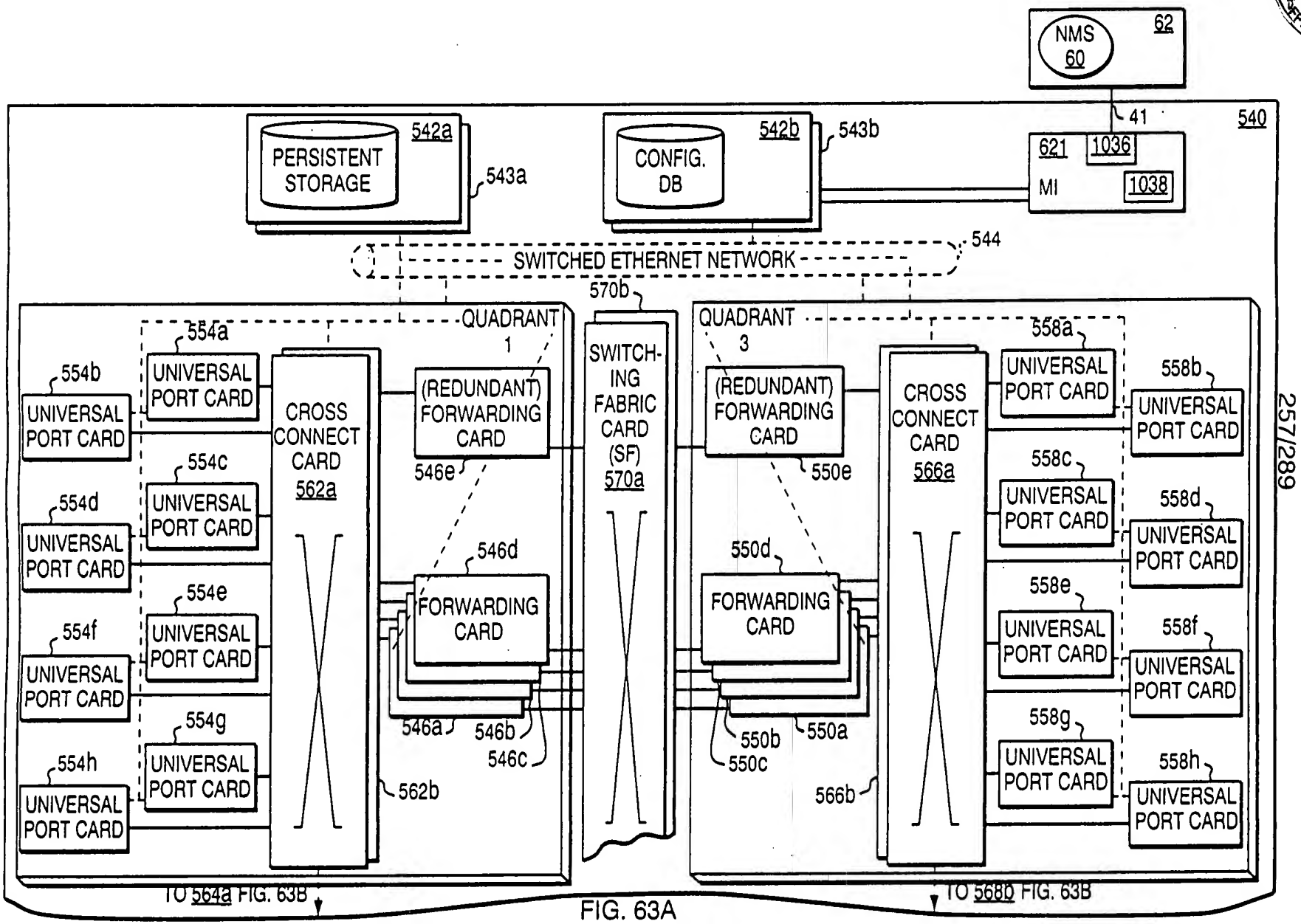


FIG. 63A

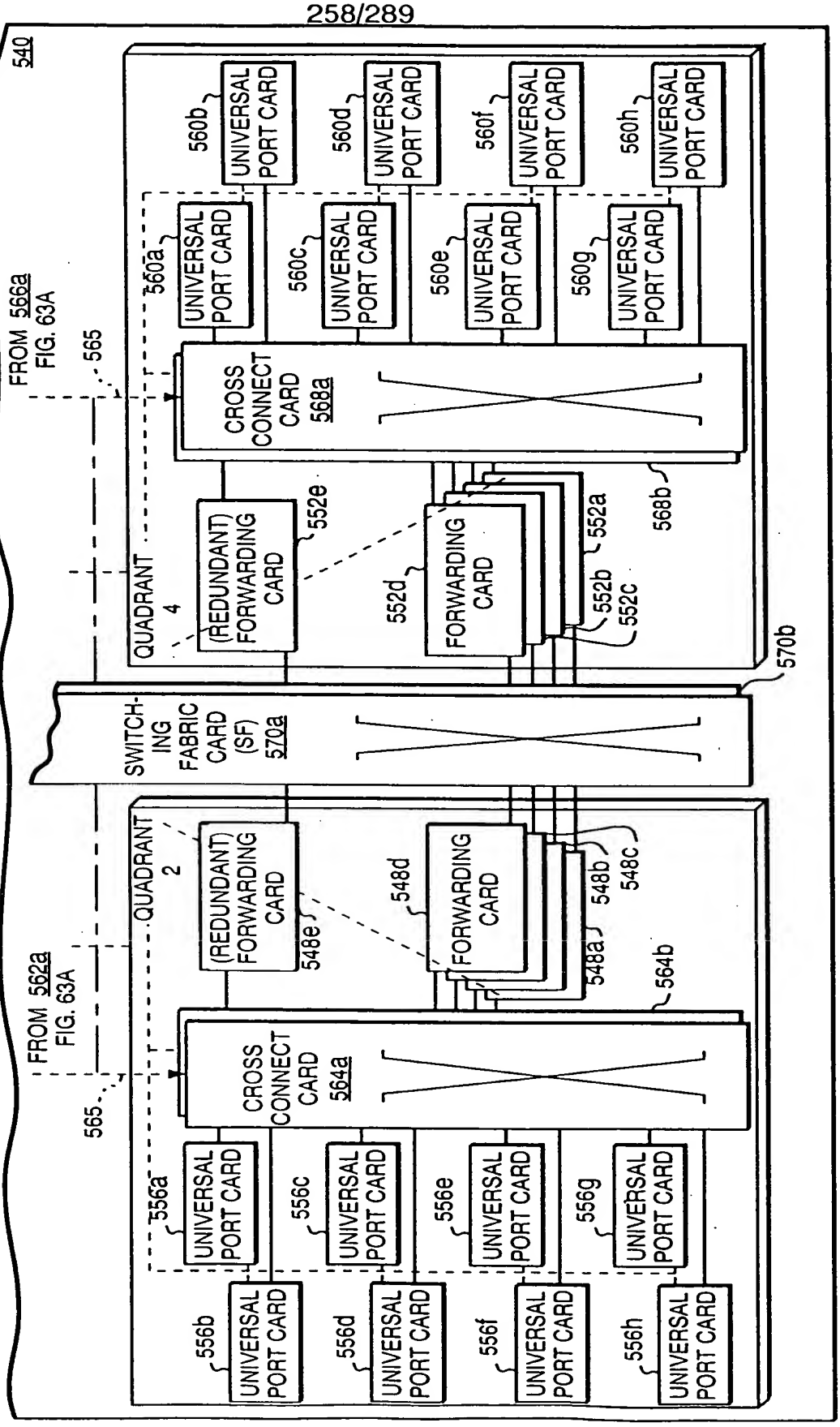


FIG. 63B

ADMINISTRATION MANAGED DEVICE TABLE 1014'

1014a' 1014e' 1014f'

LID	HOST ADDRESS	PORT ADDRESS	RETRY	TIMEOUT	ADMIN. PASSWORD	PROV. PASSWORD	VIEWER PASSWORD	PHYSICAL ID	PHYSICAL ID
9046	192.168.9.202	1521			TEAM 1	TEAM 2	TEAM 3		
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

FIG. 64

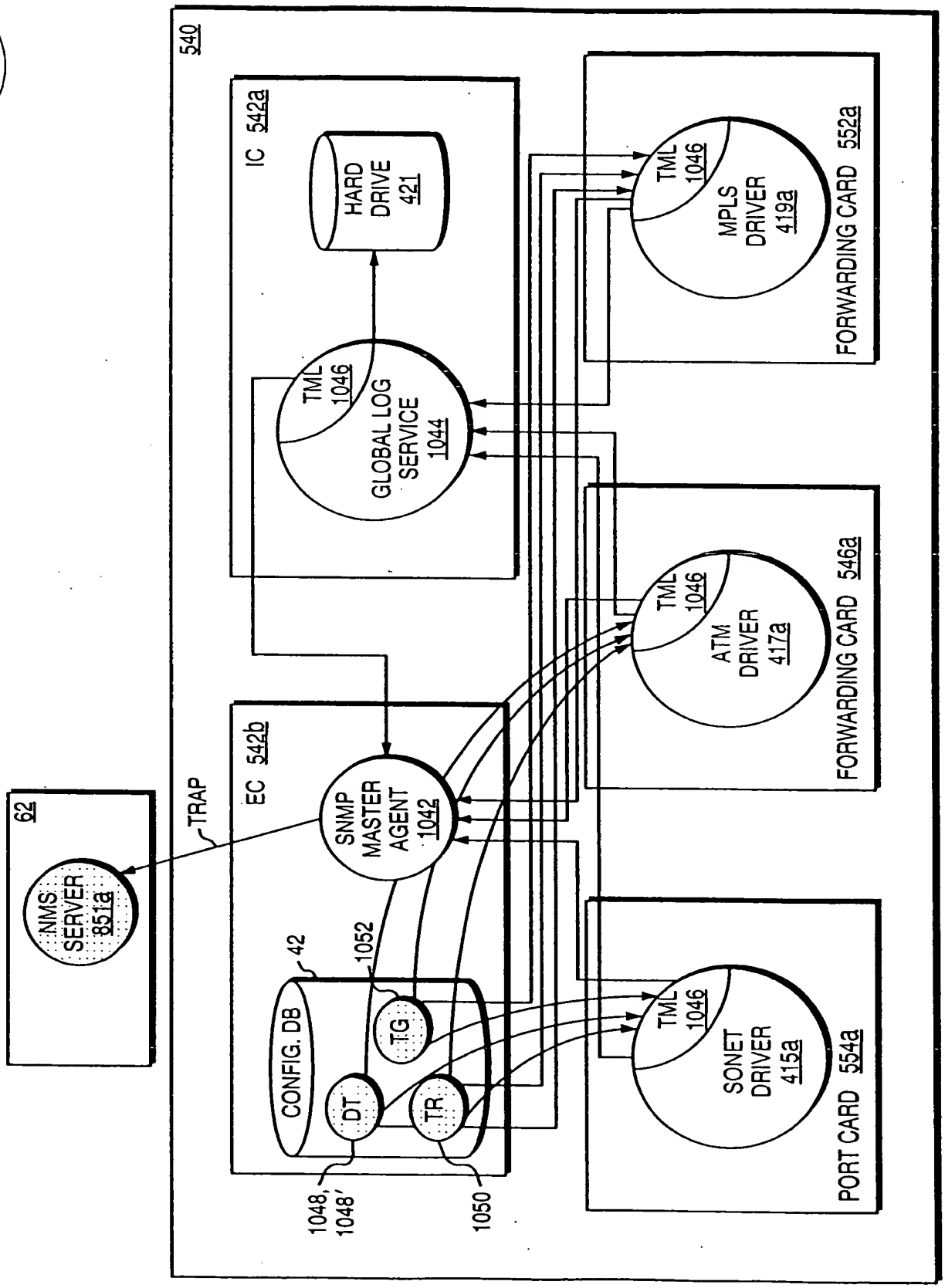


FIG. 65

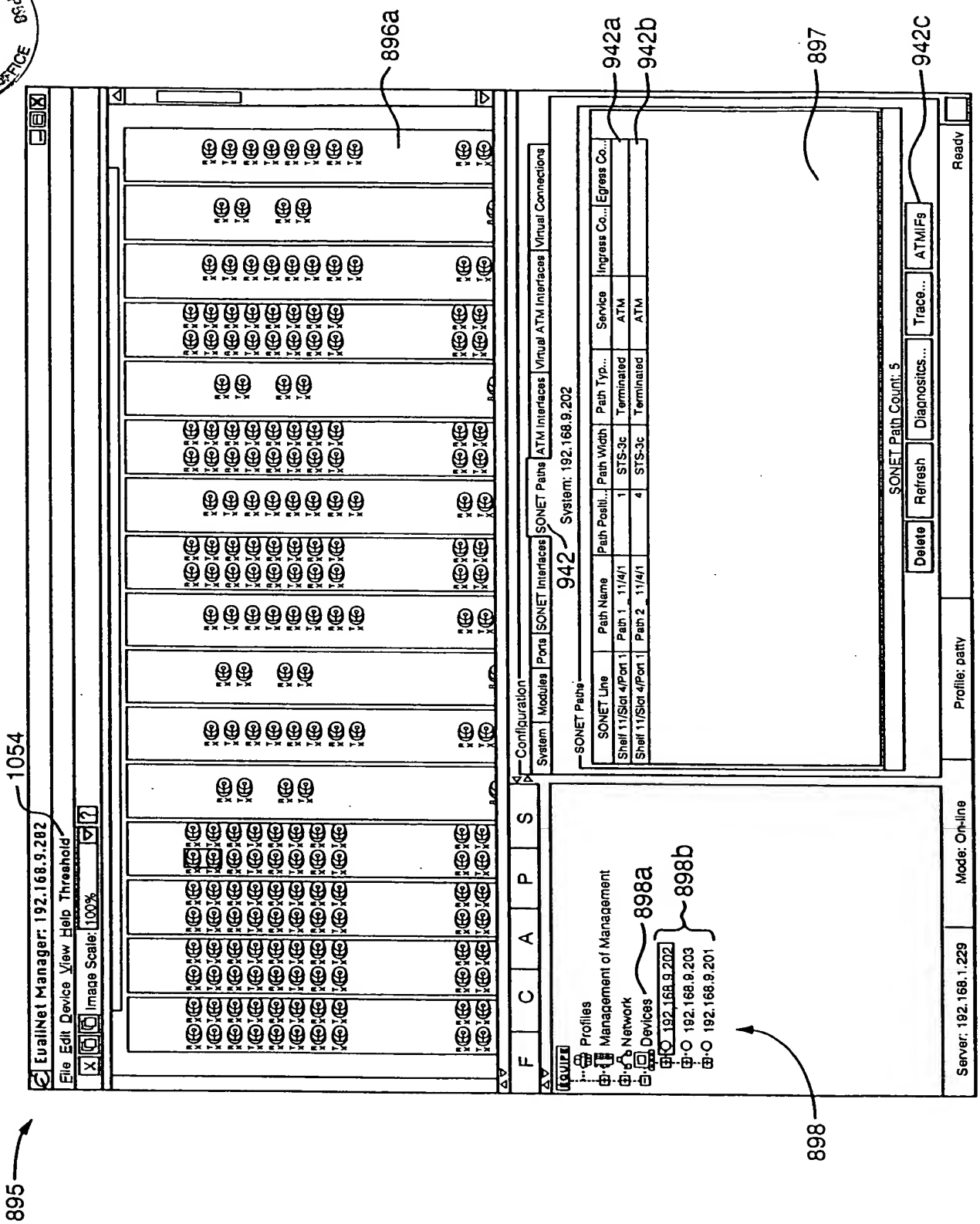


FIG. 66A

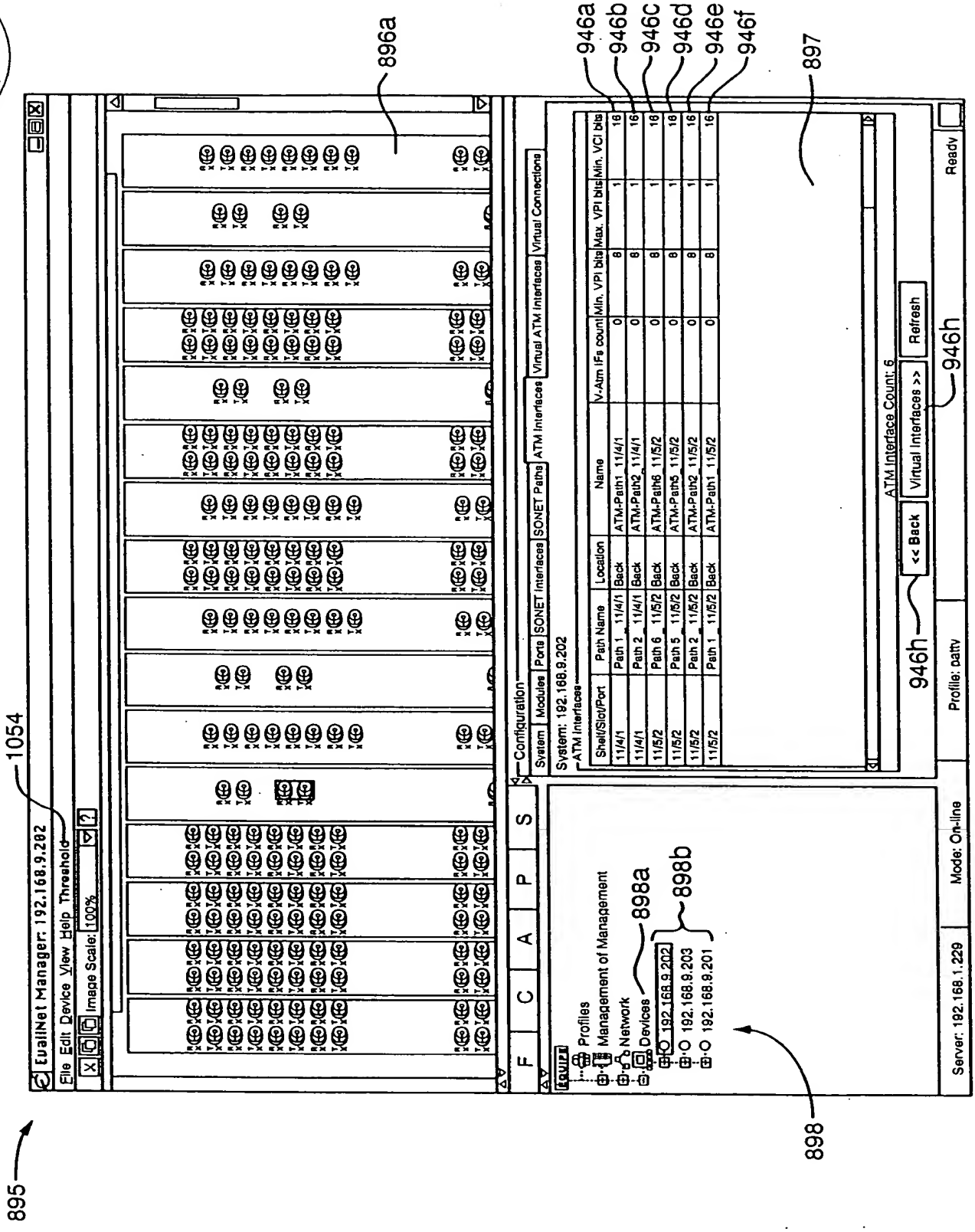


FIG. 66B

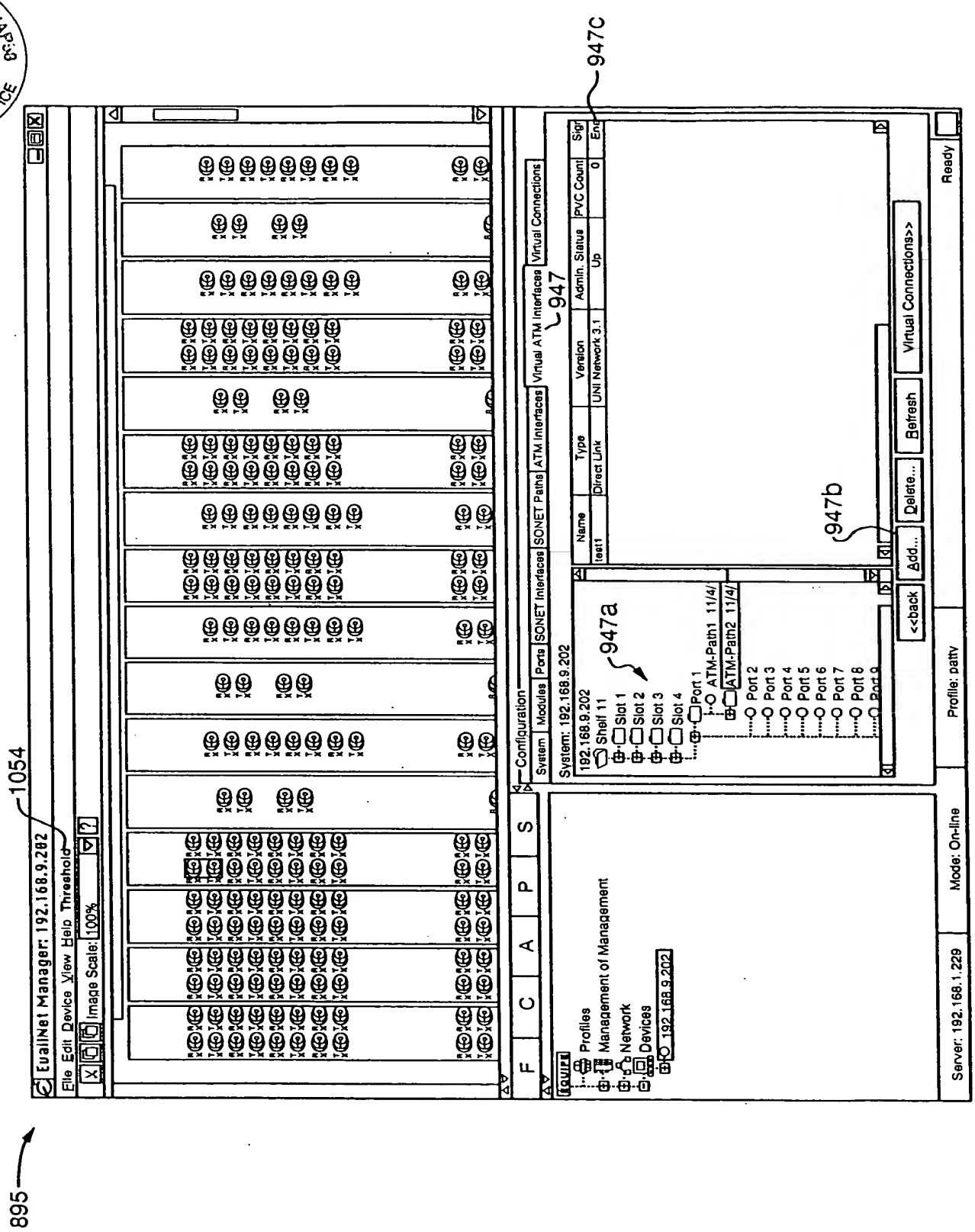


FIG. 66C

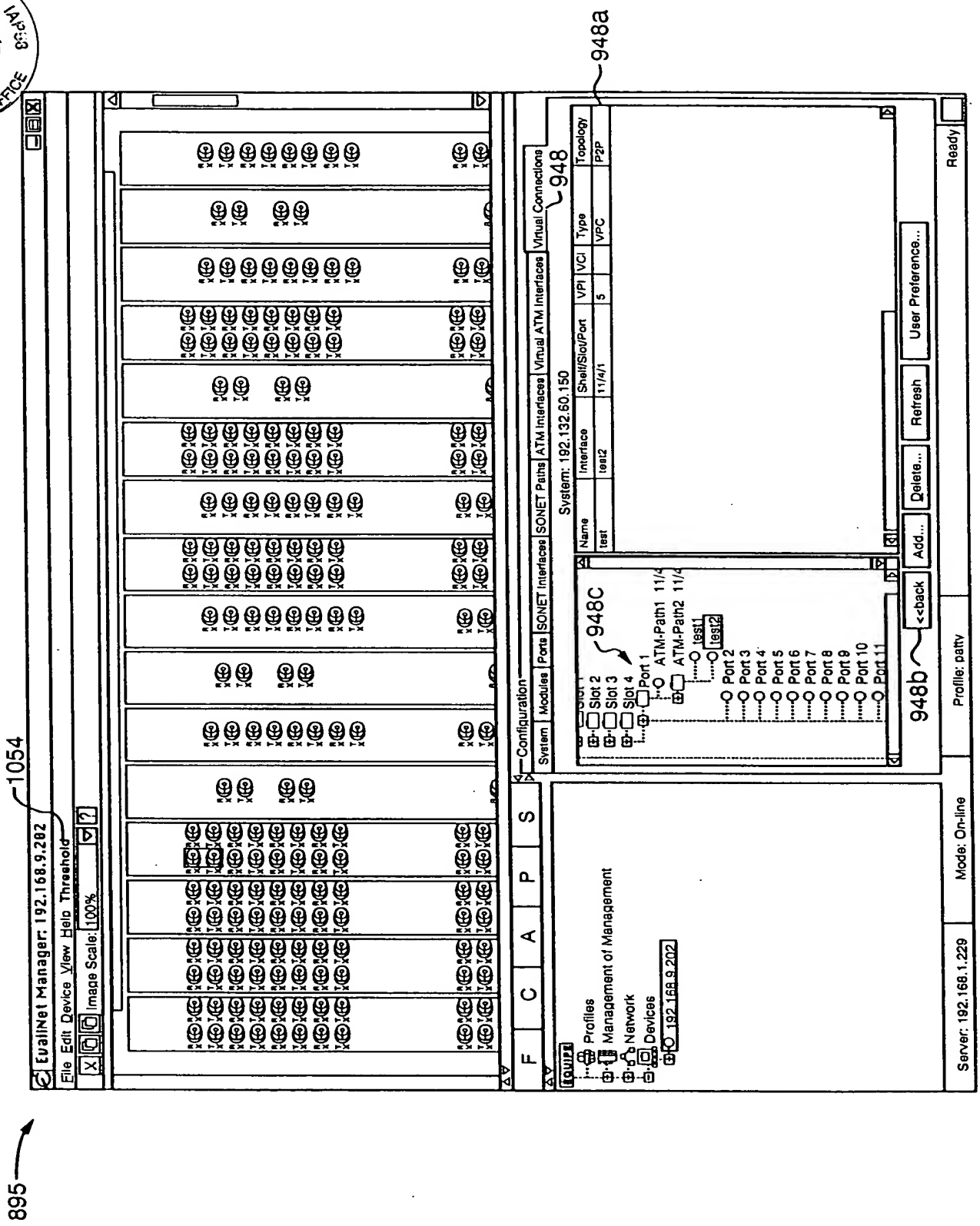


FIG. 66D

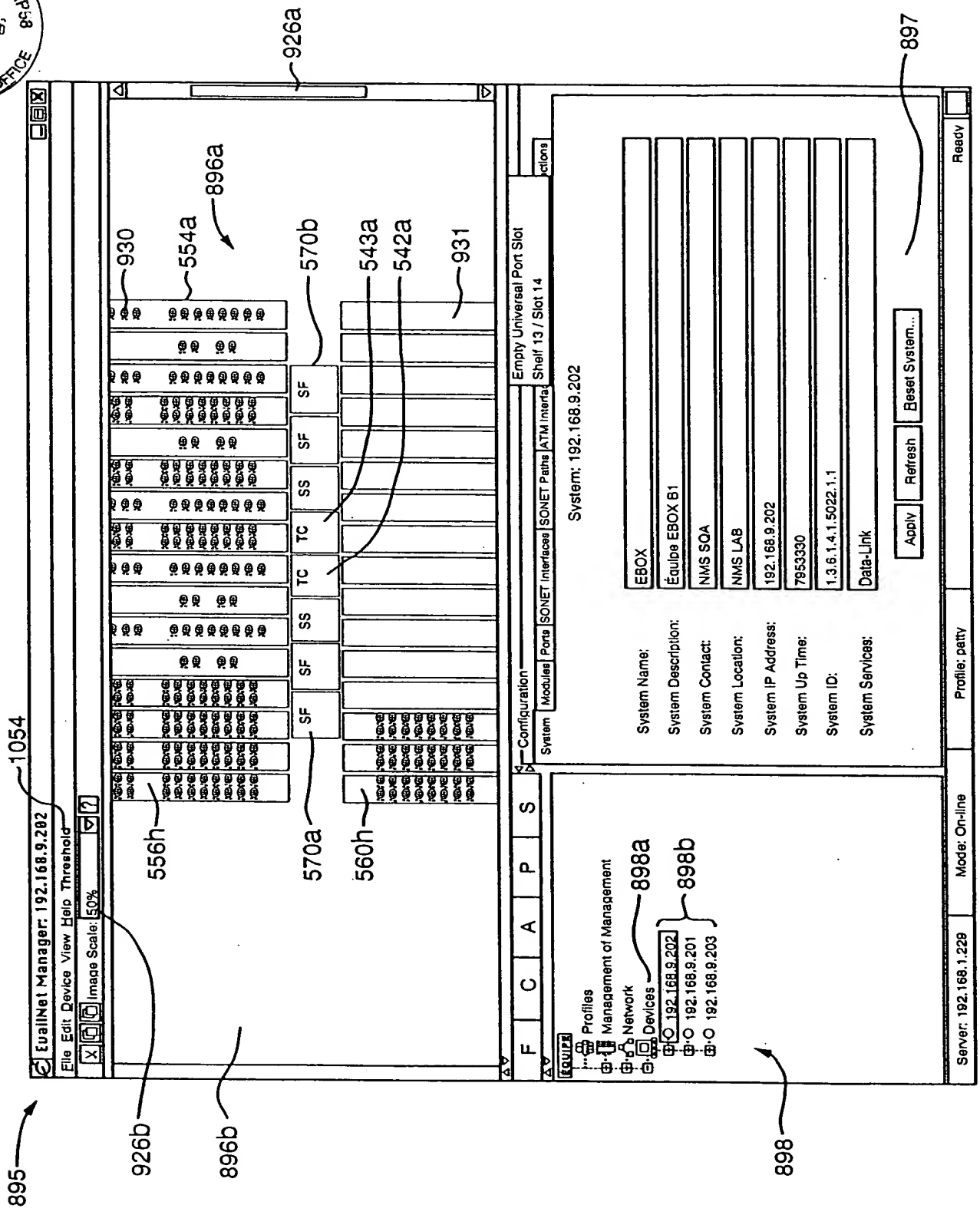


FIG. 66E

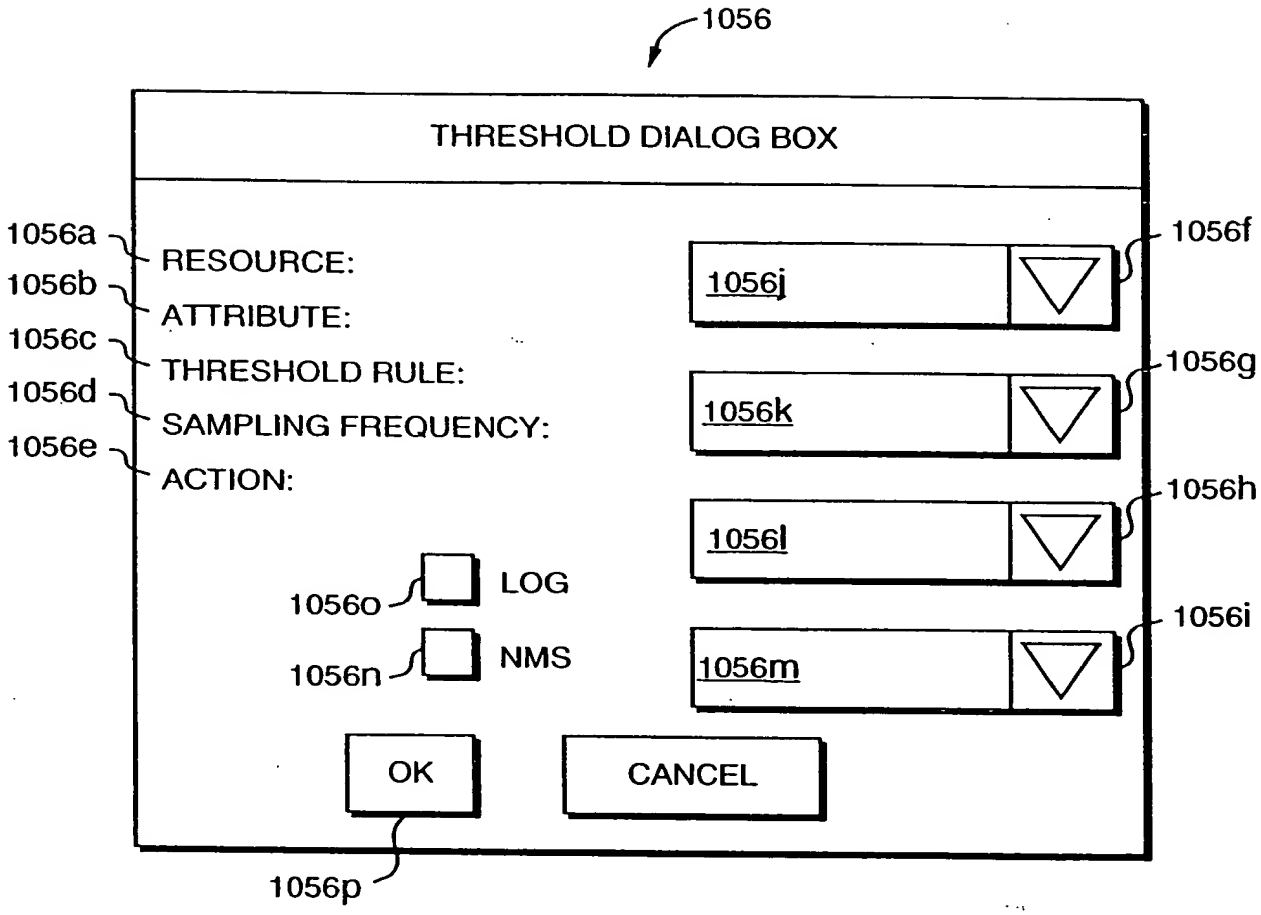


FIG. 67

DYNAMIC THRESHOLD TABLE 1048

1048a RESOURCE ID	1048c ATTRIBUTE	1048d SAMPLING FREQ.	1048e ACTION	1048f RULE
1048g 901	UNAVAILABLE SECONDS (PATH END)	15 min	LOG	IF ATTRIBUTE > 10
901	PATH ERRORS (PATH END)	15 min	TRAP	IF ATTRIBUTE < 5 OR >10
901	PATH ERRORS (PATH END)	5 min	LOG & TRAP	IF ATTRIBUTE < 5 OR >10
⋮	⋮	⋮	⋮	⋮
5054	FAILED CALL ATTEMPTS	10 min	TRAP	IF ATTRIBUTE > 8 BETWEEN 8:00am-7:00pm OR > 2 BETWEEN 7:00pm-8:00am
1048h 5054	HCS ERRORS	12 min	TRAP	IF ATTRIBUTE > 13
⋮	⋮	⋮	⋮	⋮
7312	RX TRAFFIC	1 HOUR	TRAP	IF ATTRIBUTE < 4
7312	TX TRAFFIC	1 HOUR	TRAP	IF ATTRIBUTE = 0
	⋮	⋮	⋮	⋮

FIG. 68

DYNAMIC THRESHOLD TABLE 1048'

1048a' THR. GROUP LID	1048b' RESOURCE	1048c' ATTRIBUTE	1048d' SAMPLING FREQ.	1048e' ACTION	1048f' RULE
8312	SONET PATH	UNAVAILABLE SECONDS (PATH END)	15 min	LOG	IF ATTRIBUTE > 10
8312	SONET PATH	PATH ERRORS (PATH END)	15 min	TRAP	IF ATTRIBUTE < 5 OR >10
8312	SONET PATH	PATH ERRORS (FAR END)	5 min	LOG & TRAP	IF ATTRIBUTE < 5 OR >10
⋮	⋮	⋮	⋮	⋮	⋮
8433	ATM IF	FAILED CALL ATTEMPTS	10 min	TRAP	IF ATTRIBUTE > 8 BETWEEN 8:00am-7:00pm OR > 2 BETWEEN 7:00pm-8:00am
8433	ATM IF	HCS ERRORS	12 min	TRAP	IF ATTRIBUTE > 13
⋮	⋮	⋮	⋮	⋮	⋮
8542	VIRTUAL CONN.	RX TRAFFIC	1 HOUR	TRAP	IF ATTRIBUTE < 4
8542	VIRTUAL CONN.	TX TRAFFIC	1 HOUR	TRAP	IF ATTRIBUTE = 0
	⋮	⋮	⋮	⋮	⋮

FIG. 69A

THRESHOLD GROUP TABLE 1052

1052a

RESOURCE ID	THRESHOLD GROUP LID
901	8312
902	8313
903	8312
• • •	• • •
5054	8433
• • •	• • •
7312	8542

1052b

FIG. 69B

DYNAMIC THRESHOLD TABLE 1048''

	1048a'' THR. GROUP LID	1048b'' RESOURCE	1048c'' ATTRIBUTE	1048d'' SAMPLING FREQ.	1048e'' ACTION	1048f'' RULE LID	1048g'' VARIAB. a	1048h'' VARIAB. b	1048i'' VARIAB. c	1048j'' VARIAB. d	1048k'' VARIAB. e	1048l'' VARIAB. f	...	1048t'' VARIAB. n
1048u''	8312	SONET PATH	UNAVAILABLE SECONDS (PATH END)	15 min	LOG	9421	10							
	8312	SONET PATH	PATH ERRORS (PATH END)	15 min	TRAP	9422	5	10						
	8312	SONET PATH	PATH ERRORS (FAR END)	5 min	LOG & TRAP	9422	5	10						
	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
	8433	ATM IF	FAILED CALL ATTEMPTS	10 min	TRAP	9423	8	8:00am	7:00pm	2	7:00pm	8:00am		
1048v''	8433	ATM IF	HCS ERRORS	12 min	TRAP	9421	13							
	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
	8542	VIRTUAL CONN.	Rx TRAFFIC	1 HOUR	TRAP	9424	4							
	8542	VIRTUAL CONN.	Tx TRAFFIC	1 HOUR	TRAP	9425								
		⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

FIG. 70A

THRESHOLD RULE TABLE 1050

1050a RULE LID	1050b EXPRESSION
1050c 9421	IF ATTRIBUTE > a
9422	IF ATTRIBUTE < a OR > b
9423	IF ATTRIBUTE > a BETWEEN b-c OR > d BETWEEN e-f
9424	IF ATTRIBUTE < a
9425	IF ATTRIBUTE = 0
9426	RMON
9427	FOE
9428	IF ATTRIBUTE < a GO TO RULE LID b
. . .	. . .

FIG. 70B

DYNAMIC THRESHOLD TABLE 1048'''

	1048a''' THR. GROUP LID	1048b''' RESOURCE	1048c''' ATTRIBUTE	1048d''' SAMPLING FREQ.	1048e''' ACTION	1048f''' RULE LID	1048g''' VARIAB. a	1048h''' VARIAB. b	1048i''' VARIAB. c	1048j''' VARIAB. d	1048k''' VARIAB. e	1048l''' VARIAB. f	...	1048t''' VARIAB. n	1048w''' ACTIVE/ INACTIVE
1048u'''	8312	SONET PATH	UNAVAILABLE SECONDS (PATH END)	15 min	LOG	9421	10								
	8312	SONET PATH	PATH ERRORS (PATH END)	15 min	TRAP	9422	5	10							
	8312	SONET PATH	PATH ERRORS (FAR END)	5 min	LOG & TRAP	9422	5	10							
	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
	8433	ATM IF	FAILED CALL ATTEMPTS	10 min	TRAP	9423	8	8:00am	7:00pm	2	7:00pm	8:00am			
1048v'''	8433	ATM IF	HCS ERRORS	12 min	TRAP	9421	13								
	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
	8542	VIRTUAL CONN.	RX TRAFFIC	1 HOUR	TRAP	9424	4								
	8542	VIRTUAL CONN.	TX TRAFFIC	1 HOUR	TRAP	9425									
		⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
1048x'''	8588	HARD DRIVE	UNUSED DISK SPACE	5 min	LOG	9428	80	9424							ACTIVE
1048y'''	8588	HARD DRIVE	UNUSED DISK SPACE	30 sec	TRAP	9424	20								INACTIVE

272/289

FIG. 71

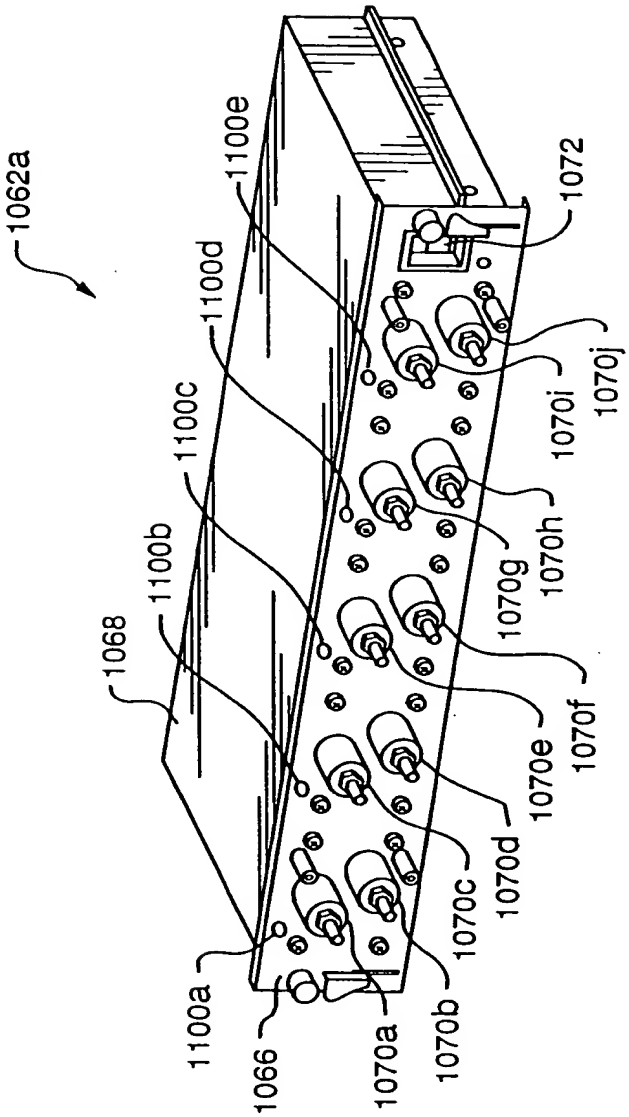


FIG. 72A

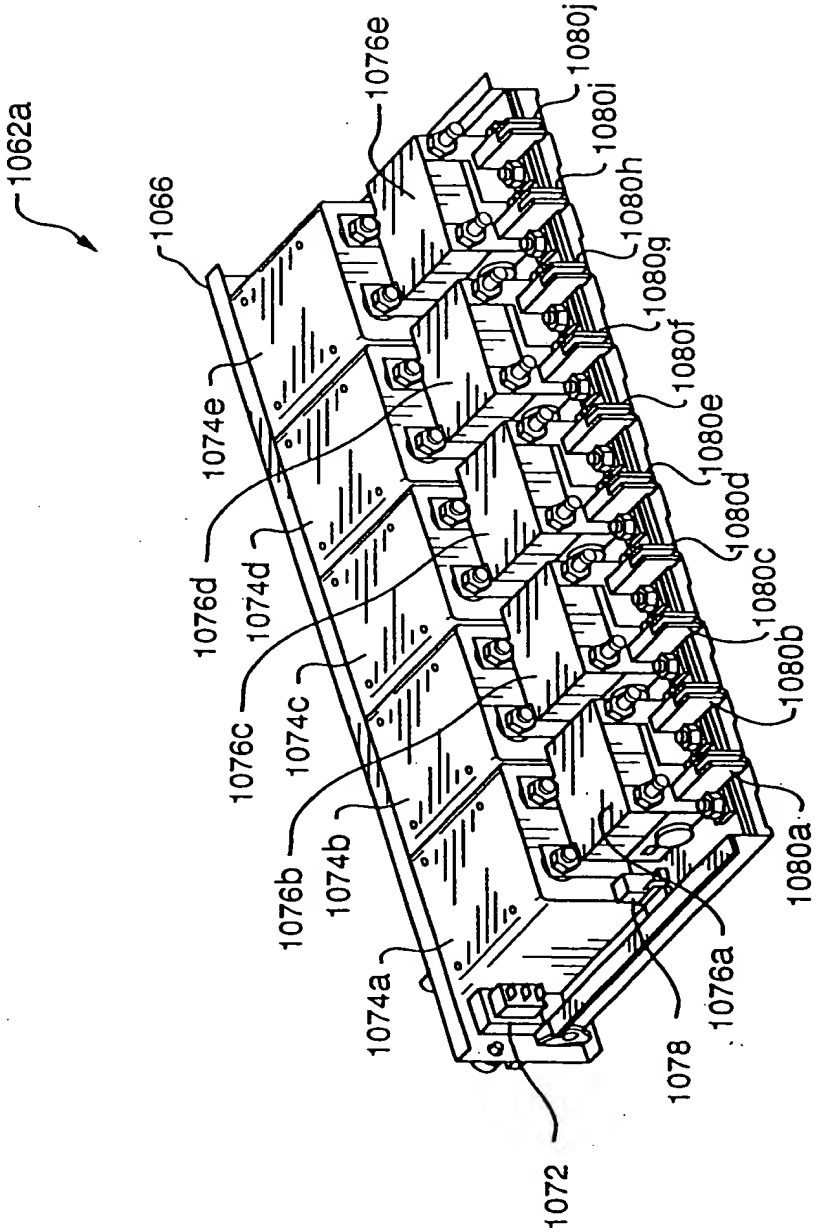


FIG. 72B

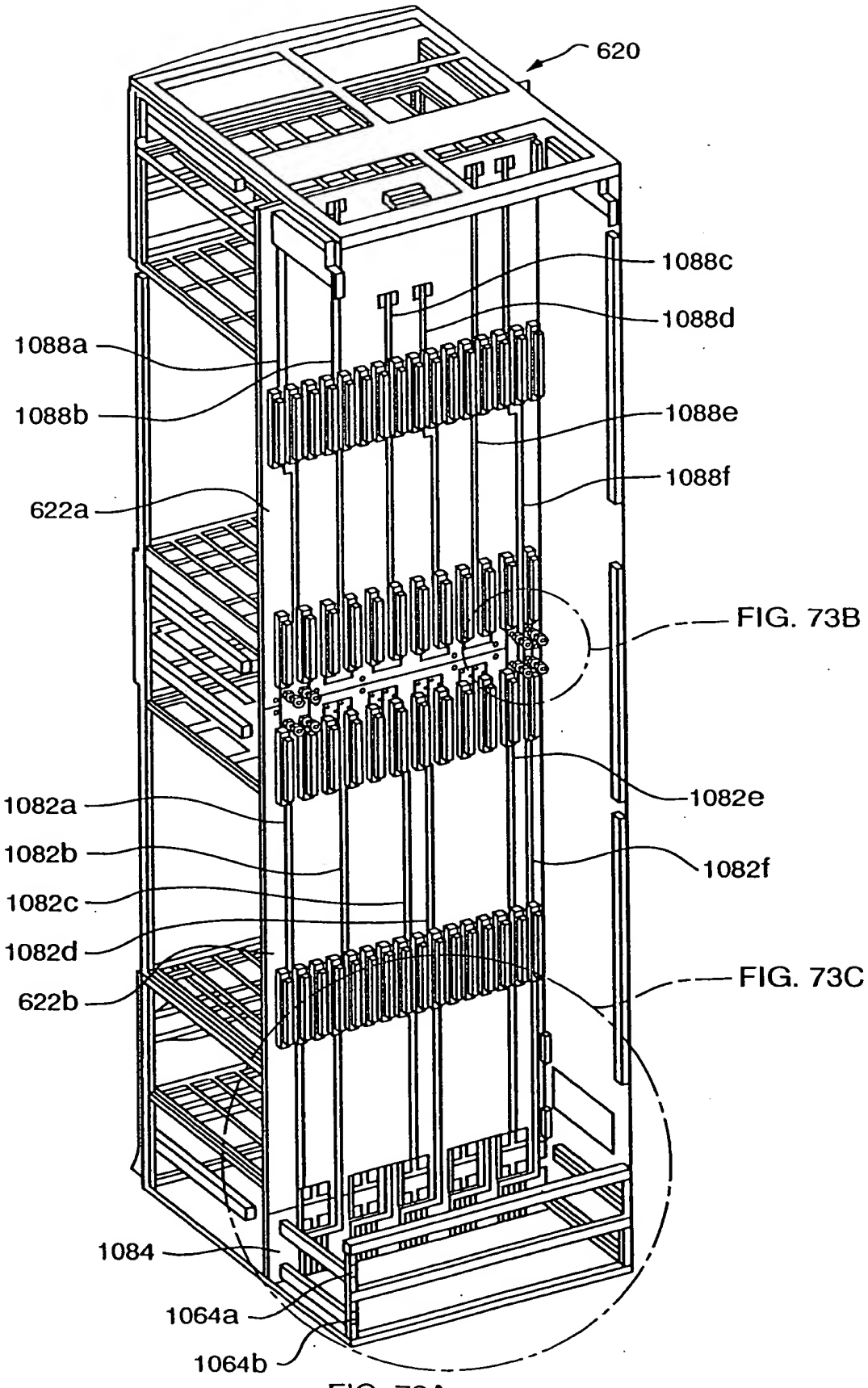


FIG. 73A

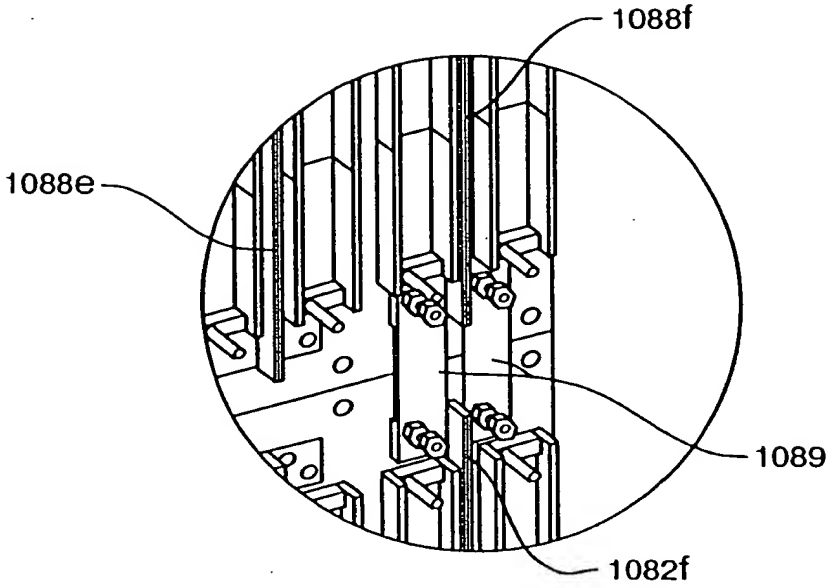


FIG. 73B

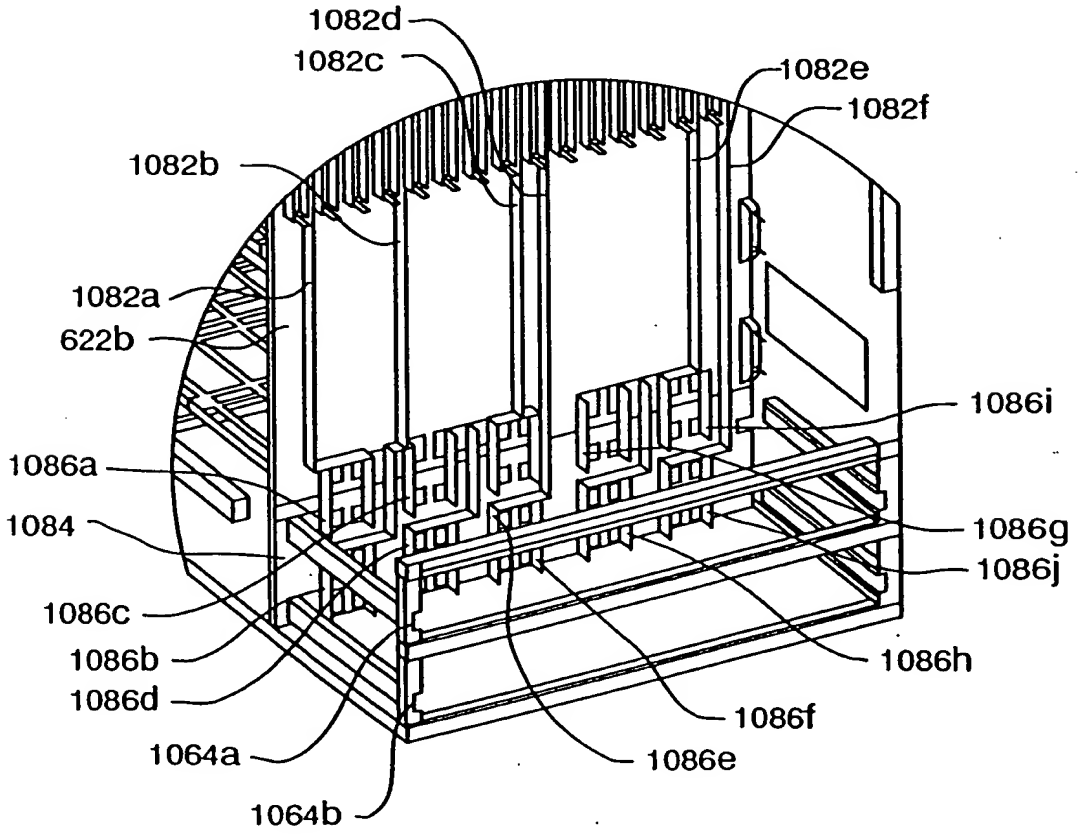


FIG. 73C

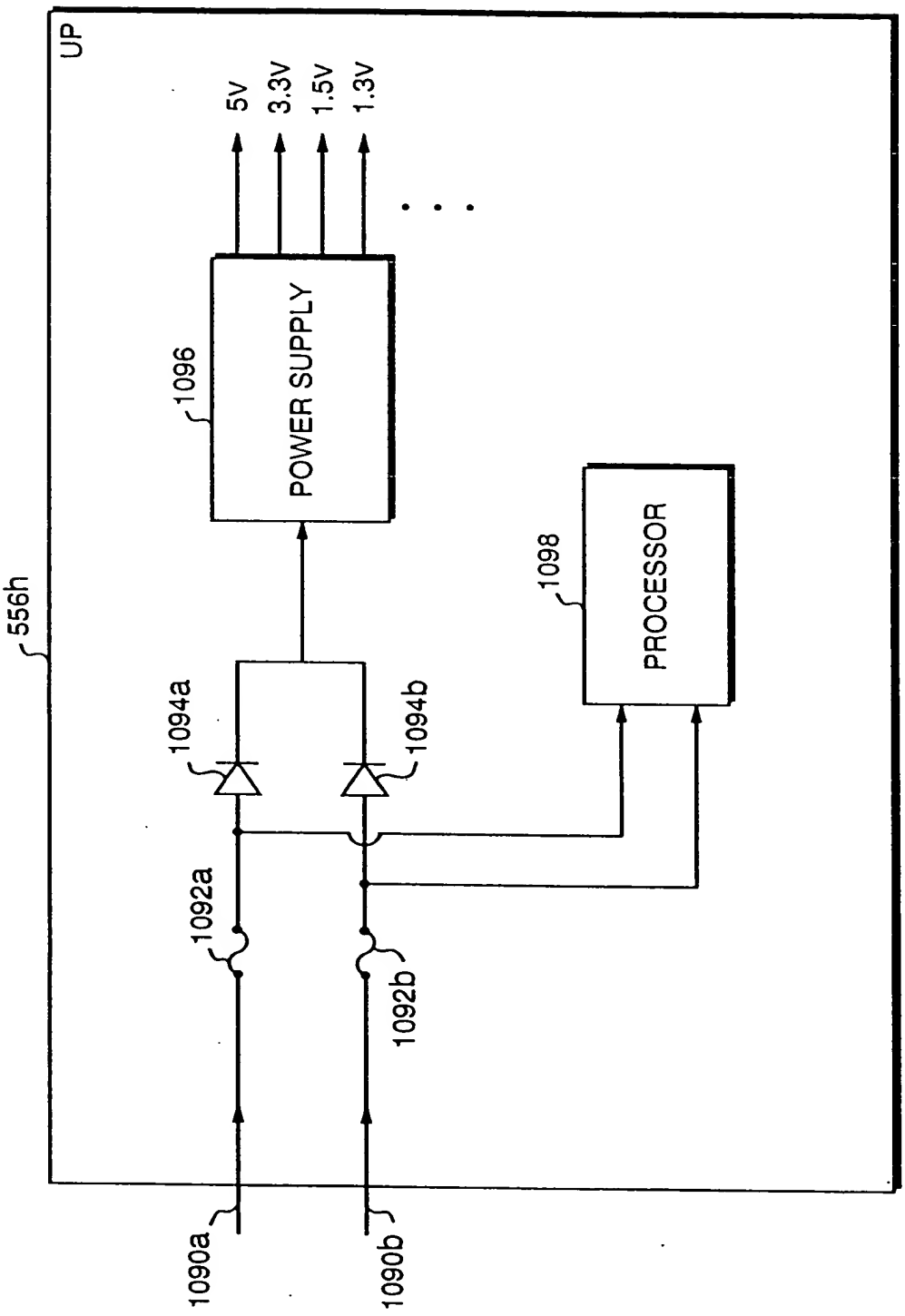


FIG. 74

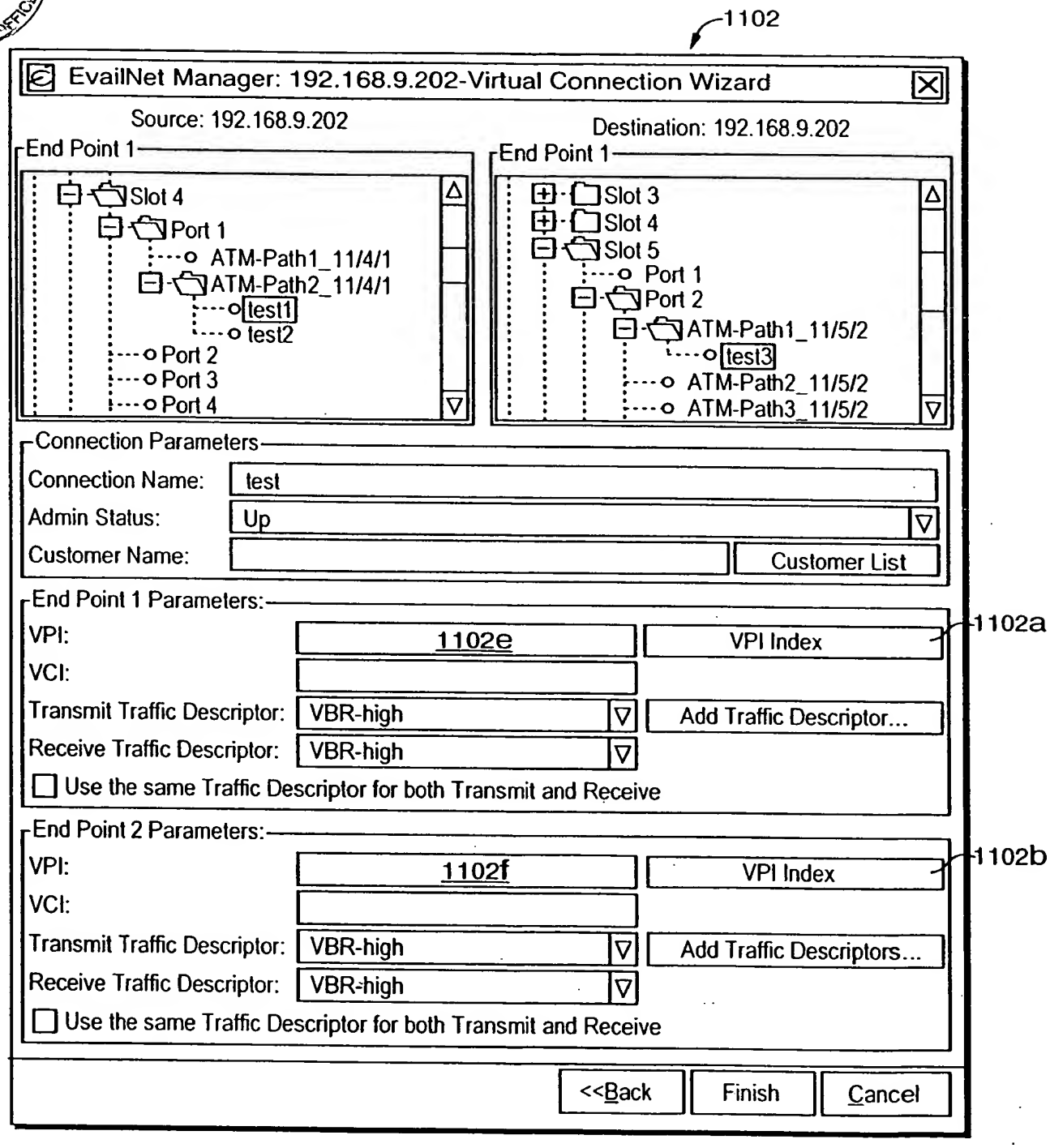


FIG. 75

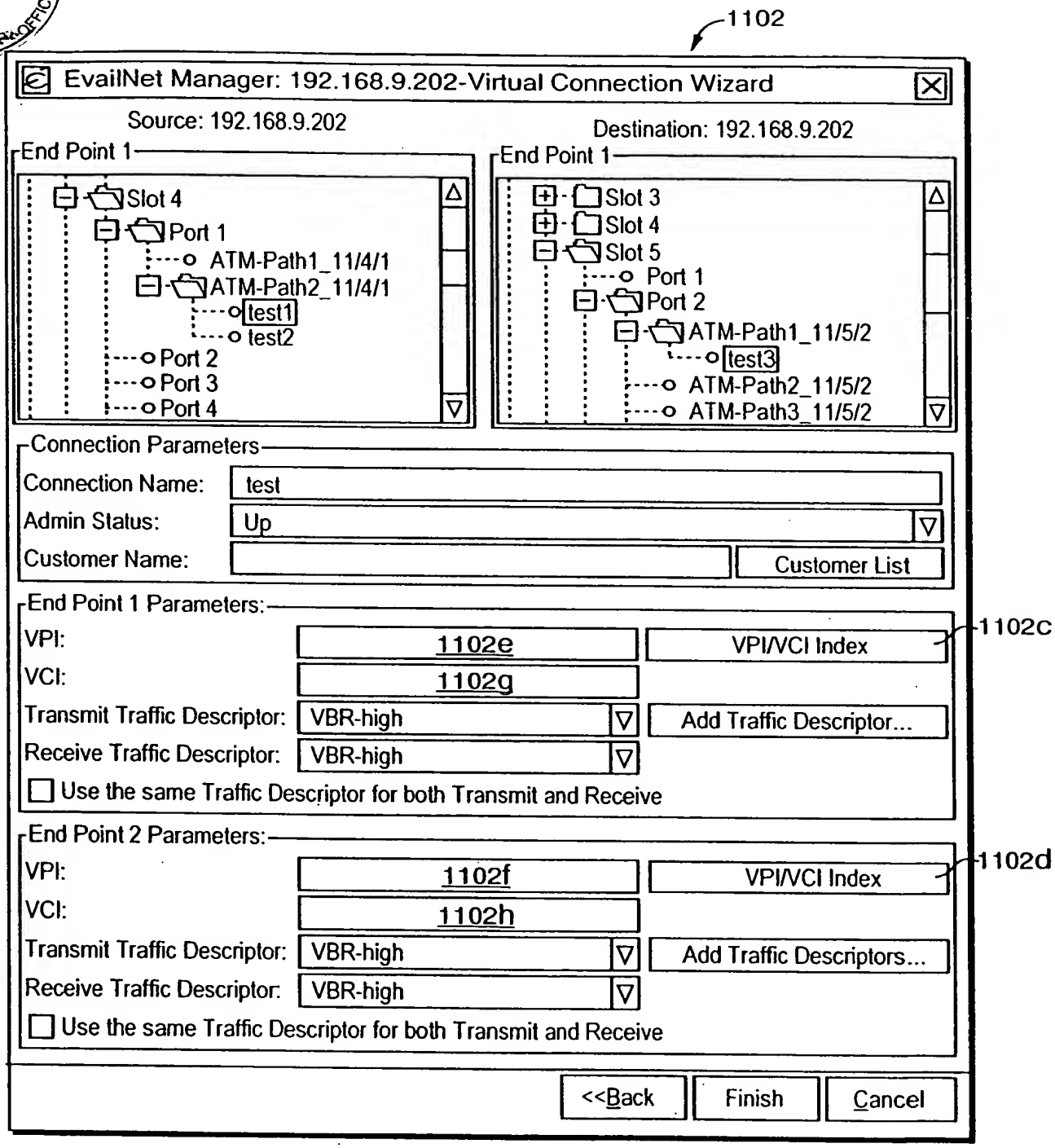


FIG. 76

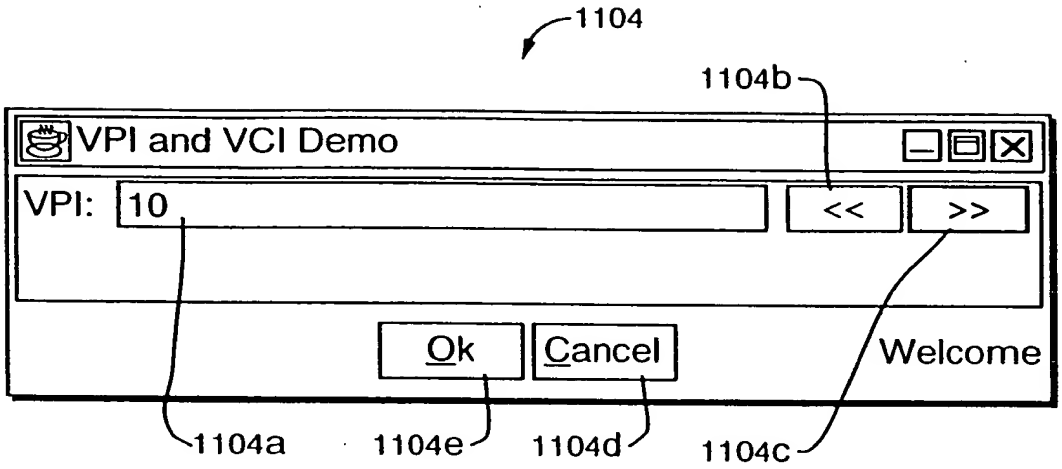


FIG. 77

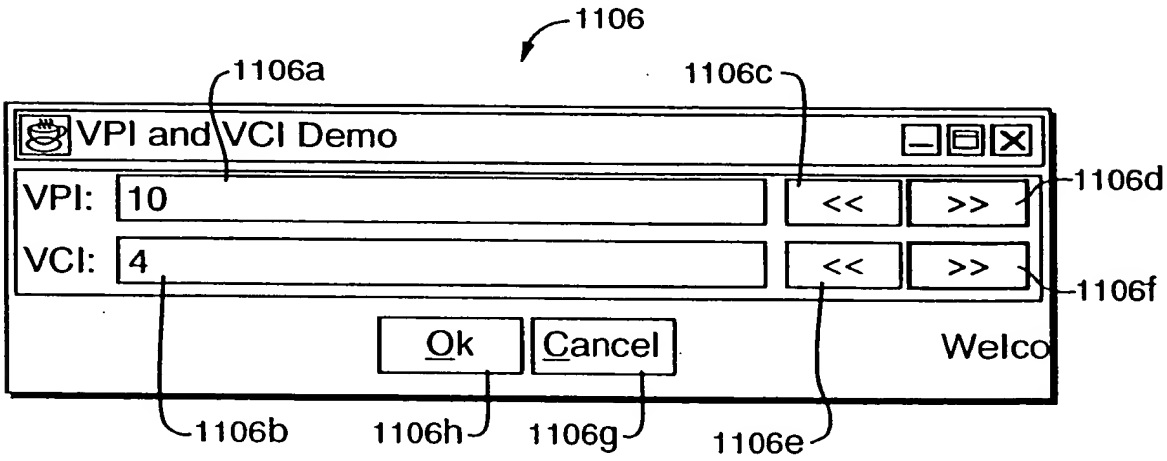


FIG. 78

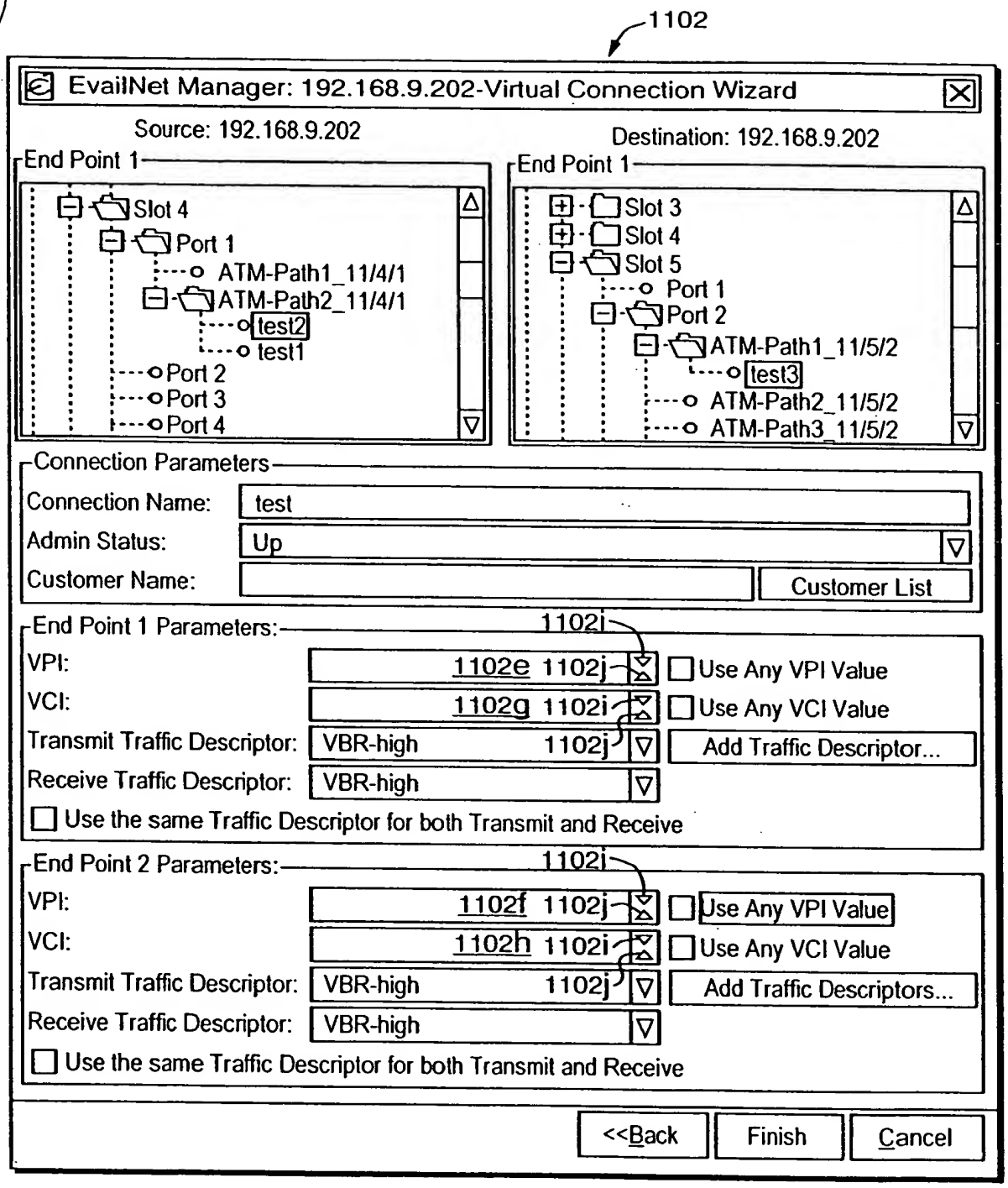


FIG. 79

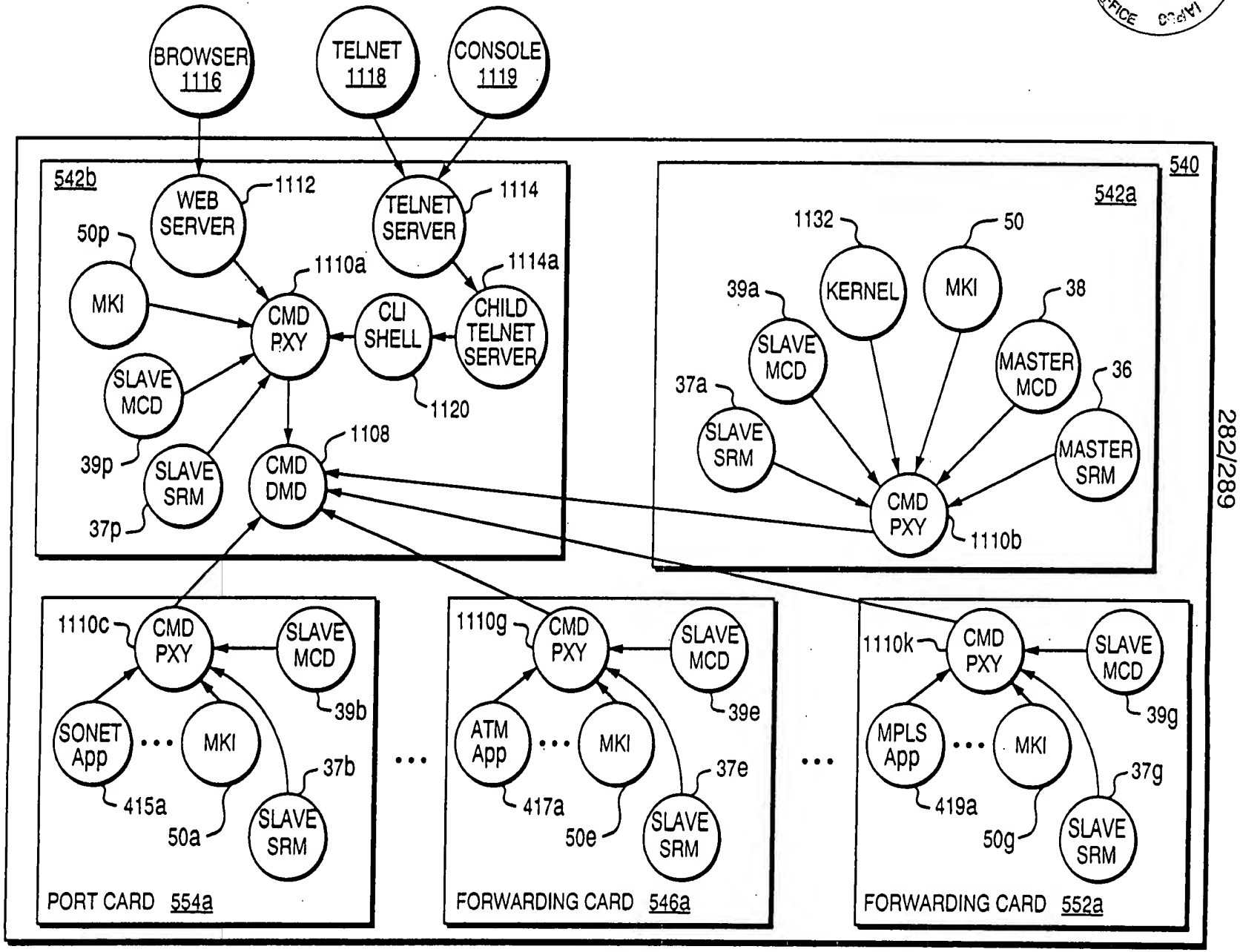


FIG. 80

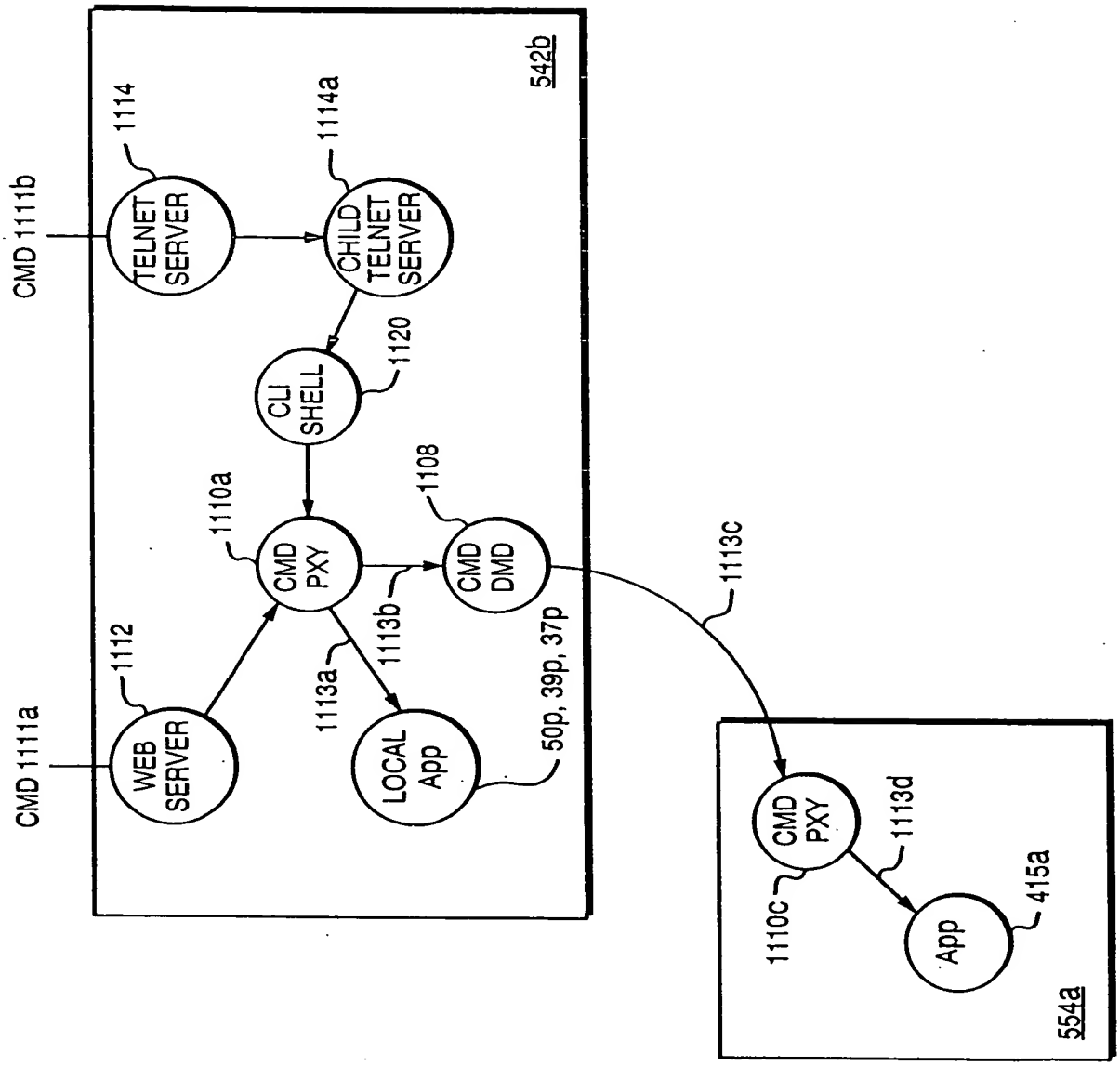


FIG. 81

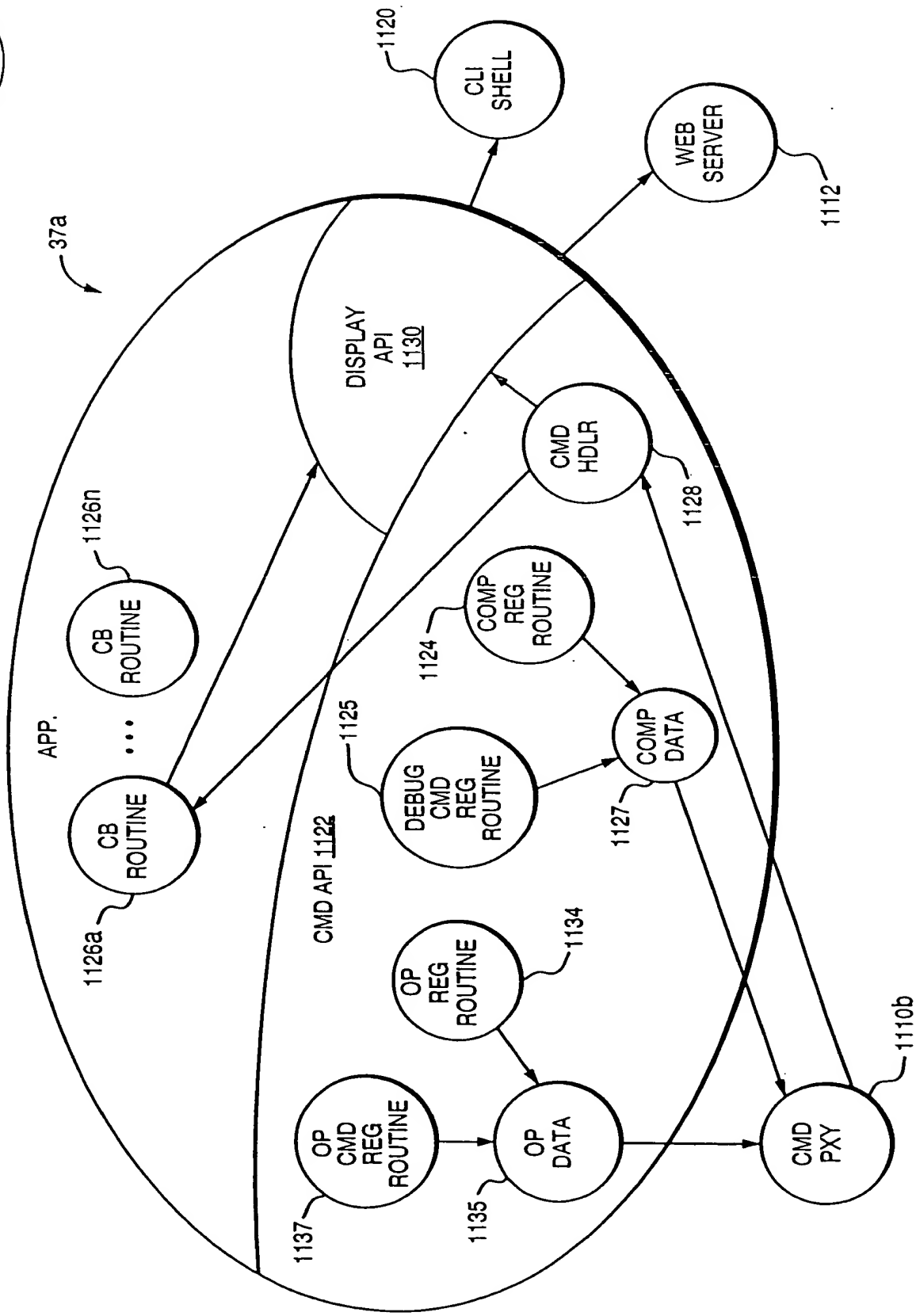


FIG. 82

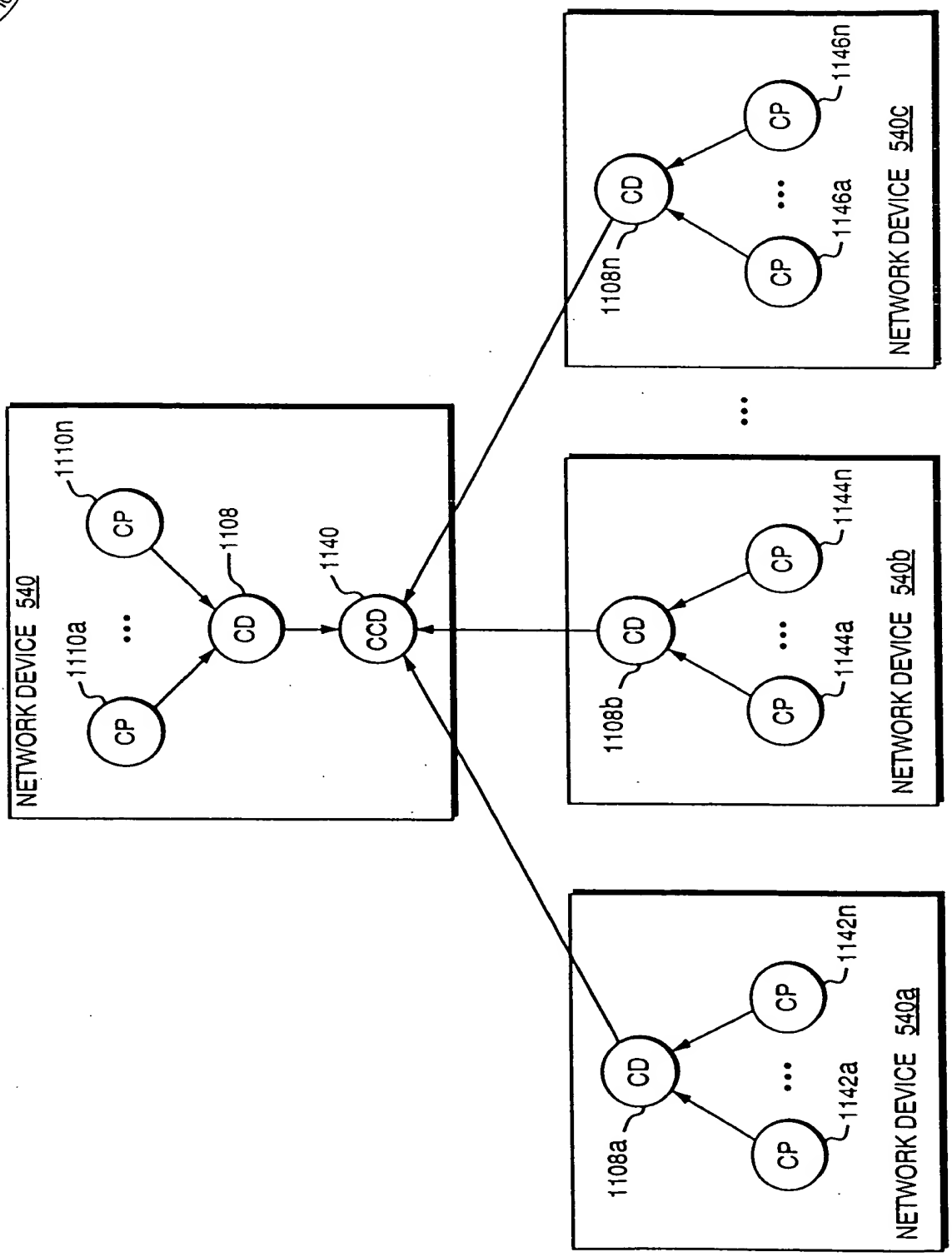


FIG. 83

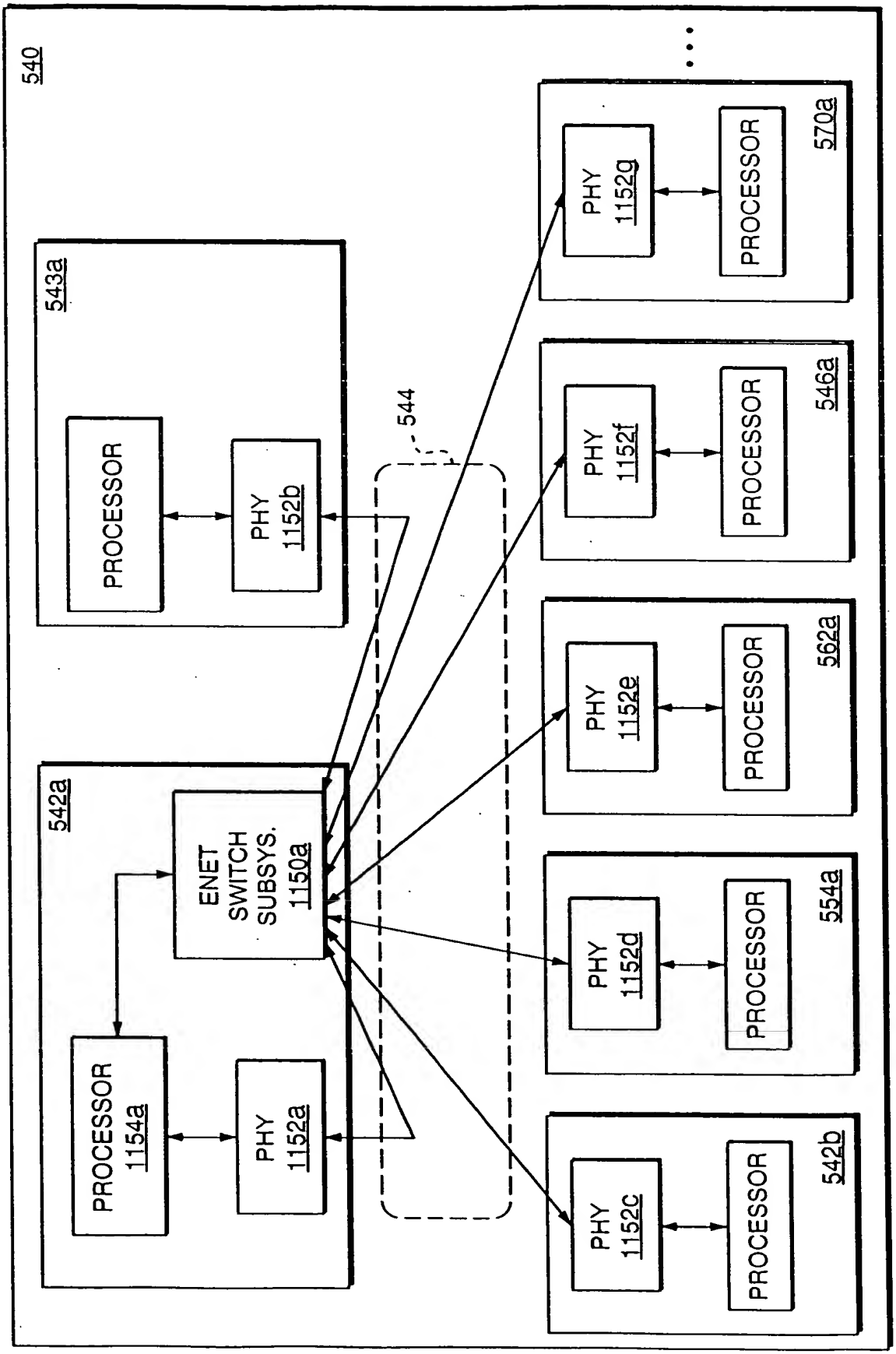


FIG. 84

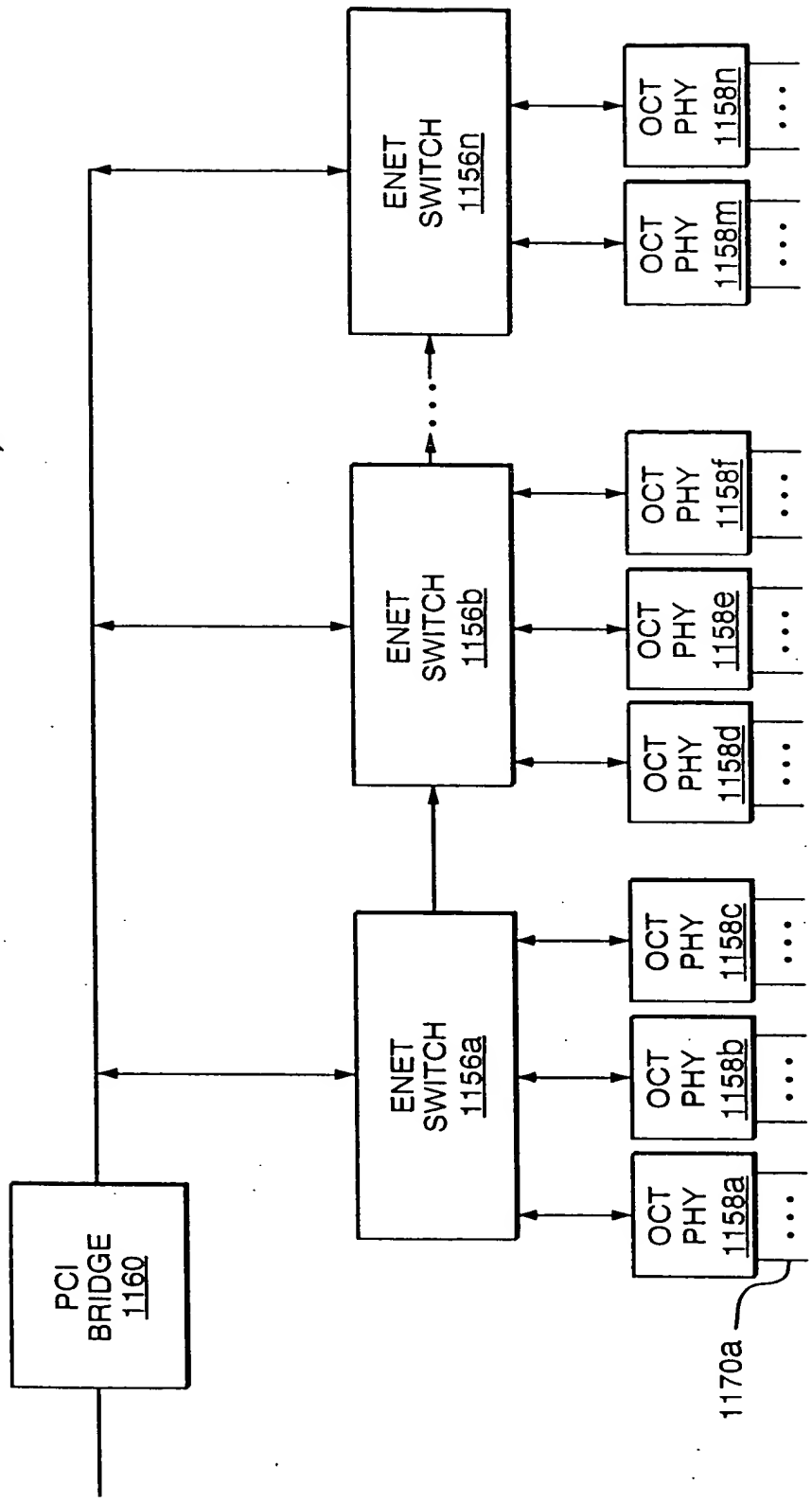


FIG. 85

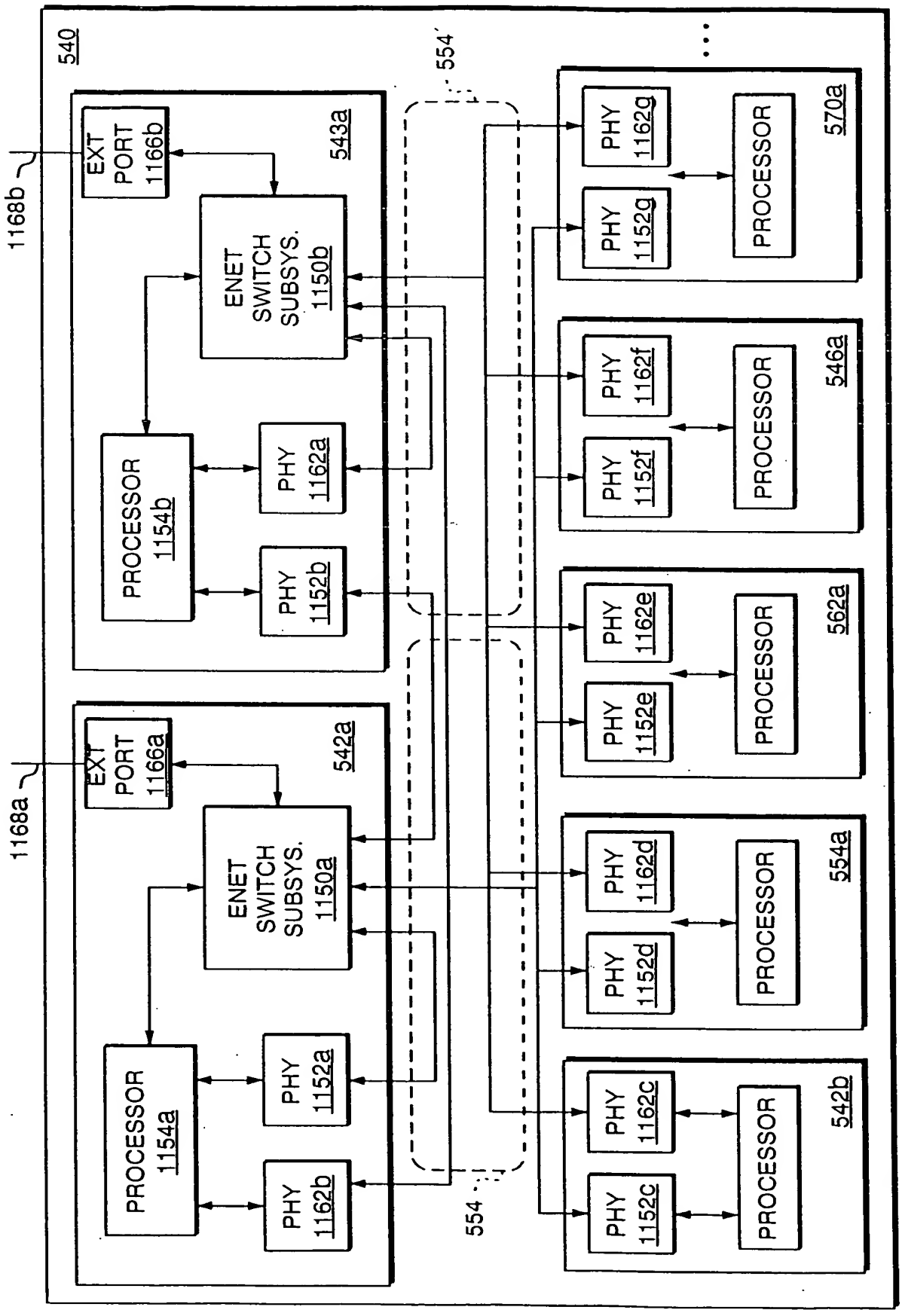


FIG. 86

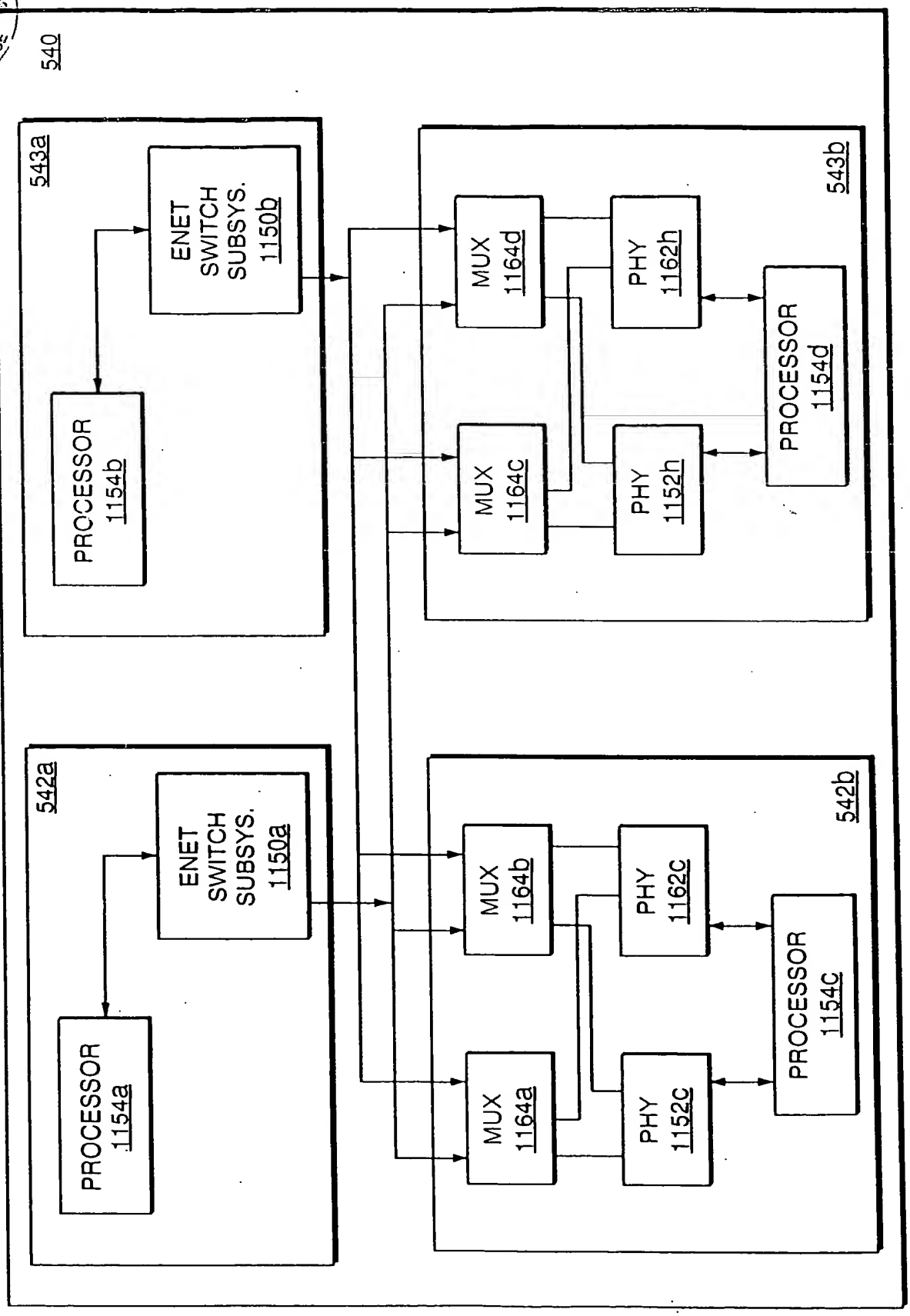


FIG. 87